

THE RITUAL KILLING AND BURIAL OF ANIMALS

European Perspectives



edited by

ALEKSANDER PLUSKOWSKI

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Edited by
Aleksander Pluskowski

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Contents

List of Contributors

SECTION 1: INTERPRETATIVE FRAMEWORKS

1. Introduction: The Ritual Killing and Burial of Animals in the Past
1
Aleksander Pluskowski
2. Animal ‘Ritual’ Killing: From Remains to Meanings
James Morris
3. Ritualisation (or The Four Fully Articulated Ungulates of the Apocalypse).
Lee G. Broderick

SECTION 2: CENTRAL AND EASTERN EUROPE

4. Nourishment for the Soul – Nourishment for the Body. Animal Remains in Early Medieval Pomeranian Cemeteries
Andrzej Kuczkowski and Kamil Kajkowski
5. Spatial Aspects of Globular Amphora Culture Funeral Rites with Animal Deposits in Poland
Radosław Szczodrowski
6. Horse Burials as Public Ritual: Lithuanian Perspectives
Mindaugas Bertasius
7. Protohistoric Animal Deposits in the Alps. Considerations about a Dog, a Pig and Four Human Neonates from the Rural Settlement of Gamsen (Valais, Switzerland)
Nicole Reynaud Savioz
8. Late Antique and Early Medieval Animal Burials in Italy
Frank Salvadori

9. Distinct From the Everyday and Beyond Counting Calories: Animal Bones from “Ritual Spaces” in Late Neolithic Settlements at Lake Constance and in Upper Suebia
Karlheinz Steppan
10. Animal Deposits in the Late Copper Age Settlement of Balatonőszöd–Temetői dűlő, Hungary.
Tünde Horváth

SECTION 3: WESTERN EUROPE

11. Dealing with Deposits in the Dutch River Area: Animals in Settlement Rituals in the Roman Period.
Maaïke Groot
12. Sheep Foundation Burials in Roman Winchester
Mark Maltby
13. Early Anglo-Saxon Horse Culture and Funerary Ritual (c. AD 450-650): *Active Mythology* in a European Context
Chris Fern
14. Evolving Traditions: Horse Slaughter as Part of Viking Burial Customs in Iceland
Rúnar Leifsson
15. Sacred Cows or Old Beasts? A Taphonomic Approach to Studying Ritual Killing with an Example from Iron Age Uppåkra, Sweden
Ola Magnell
16. Flesh on the Bones: Animal Bodies in Atlantic Roundhouses
Jacqui Mulville, Richard Madgwick, Adrienne Powell and Mike Parker Pearson
17. “Stone Dead”: Dogs in a Medieval Sacral Space
László Bartosiewicz

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SECTION 1

INTERPRETATIVE FRAMEWORKS

1

Introduction: The Ritual Killing and Burial of Animals in the Past

Aleksander Pluskowski

The killing and burial of animals in ritualistic contexts is encountered across Europe from Prehistory through to the historical period. The term ‘ritualistic’ is an ambiguous and controversial one, but in this context most commonly refers to the slaughter of animals as part of religious or cult praxis. Archaeologically, such animals are most frequently encountered in funerary contexts, often in association with human remains, where they are typically interpreted as sacrifices. Written sources from historical periods indicate incredible diversity in the form and function of animal sacrifice, from basic slaughter through to burning and living burial. Deeper in the past, where we rely almost exclusively on interpreting deposited animal remains and (where available) zoomorphic iconography, the range of treatments of the ritually slaughtered and deposited animals is equally diverse.

The aim of this volume is to present the state of research across Europe, to illustrate how comparable interpretative frameworks are used by archaeologists working with both prehistoric and historical societies. This is a topic which is widely encountered in the study of past European societies, and one which would benefit from a comparison of techniques, interpretations, theoretical frameworks and critiques. Key questions include: How easy is it to identify ritually killed animals in the archaeological record? Can we tell if an animal has been killed specifically for such a purpose? Is it possible to reconstruct the rites associated with their deposition? Is it possible to reconstruct or re-contextualise the value of ritually

killed animals? What insights can be gained about the religious paradigms and ritual systems of the societies engaged in animal sacrifice? How specifically can we understand the cultic praxis behind the sacrificial killing of animals? Why are some species used in sacrificial contexts and not others? What can this tell us about human-animal relations in the past? How much similarity is there across European societies in the treatment of animals 'made sacred'? How long were specific rites in use and why? Although animal sacrifices are typically interpreted as substitutes or surrogates for people, how does the ritualistic treatment of animal bodies compare to similar treatments of humans? Many of these questions are tackled by the sixteen papers in this volume, subdivided into interpretative and regional studies. Together they represent a snapshot of the current state of research on this fundamental, recurring and spectacular aspect of human societies in the past.

Associated Bone Groups

The horse skeleton on the cover of this volume, referred to in Chris Fern's contribution, evokes the most common impression of ritual killing and burial; animals that have been buried whole with or nearby humans, often within a definable cemetery and assumed or ascertained to be deliberately killed for this purpose, rather than buried after naturally expiring. James Morris introduces the volume with a survey of how archaeologists have identified the remains of animals that have been slaughtered within a ritualistic context, defined as Associated Bone Groups (ABGs). This terminology is now widely used in the zooarchaeological and archaeological literature; many of the contributors have framed their interpretations in reference to this definition. The idea of an ABG is that it immediately identifies a carcass that was not fully processed for food or raw materials in manufacturing. However, assigning an interpretation to an ABG is largely a product of the archaeological milieu, formed by expectations and assumptions regarding the context. Moreover, the dichotomy between ritual/sacred and mundane/profane is something that remains widely used by European archaeologists, despite attempts at developing new interpretative frameworks. Part of the problem, when grappling with these juxtapositions, is that zooarchaeologists naturally begin

and end their investigations with the animal remains, rather than adopting a more holistic approach to religious practices or world-views. Given the nature of the discipline this is not always possible and in some cases even these ABGs are divorced from their immediate material context (Groot this volume); several contributions call for better documentation and publication of animal deposits. However, by viewing such deposits as human constructs – as material culture – as all of the contributors have done, a different perspective becomes available, one that draws its inspiration from the biographical approach to objects and monuments. In fact, zooarchaeologists are familiar with a ‘life history’ perspective on deposited faunal remains through the study of taphonomy, which represents a major theme in this volume.

Taphonomy

Deposited animal remains are the end result of a series of events, many of which may be impossible to reconstruct on the basis of the surviving material evidence. The presence of whole or almost complete animals in the archaeological record is not necessarily the end result of ritualistic treatment, at least not in the context of religious praxis. The broadest definition of the term ‘ritual’ encompasses any repetitive activity (see Morris this volume), and habitual trends of dumping carcasses in specific areas may be described as ritualistic in this sense (see Broderick this volume). Ritual killing itself does not have to be sacrificial, where an animal’s orchestrated slaughter is not directed to any personally conceived spirit, deity or being (Ruel 1990, p. 323). Clearly the associated context – where this information is available in enough detail – informs our understanding; the regional case studies in this volume are interpreted as the end result of ritualistic practices that transcend regular forms of food processing and carcass disposal. The taphonomic implications of these practices extend beyond a normative sequence of actions forming a ritual to entire series. Many of the contributions include instances where animals were killed and deposited in the same way at one site over a long period of time. In other instances it is possible to identify single, unusual events: from isolated individuals to mass killings. Remains from whole or partial sheep feature as occasional deposits in Romano-British pits and ditches (Maltby this volume), sometimes from

animals that had been butchered, cooked, their bones gathered up and buried as a discrete group. Part of the dramatic rituals surrounding the ship burial at Oseberg in 9th-century Norway included the slaughter and placement of thirteen horses, three dogs and an ox; at nearby Gokstad twelve horses and six dogs were killed and arranged along the side of the ship (Price 2010, p. 135).

Ship burials have a clear funerary context, but the process resulting in other single-event ABGs is not always possible to determine. For example, excavations at the Hospitaller priory at Clerkenwell in London uncovered the burial of an almost complete horse which had been deliberately placed within a pit in Open Area 9, in unenclosed outer precinct land north of the main buildings. Since this was associated with the provincial headquarters of a Christian Military Order and dated to c. 1330–1480, the ABG puzzled the archaeologists. After all, in this medieval Christian context “it is rather strange to bury any horse whole” (Sidell and Fitzgerald 2004, p. 386). Suggested interpretations included the burial of a diseased carcass, although no signs of disease were noted on the skeleton (see Morris; Broderick this volume), alternatively the horse could have been special to someone in the priory and the burial would have kept it close and intact (Sloane and Malcolm 2004, p. 122). Two partially articulated dogs were also found in pits in this area. Further investigation may have situated these burials within the general context of carcass disposal in medieval London, which was relatively strictly regulated (Rackham 2004), but the idea of ritualistic killing followed by deliberate burial is of course something that is widely perceived to belong to the pre-Christian period. The end of animal sacrifice in Europe is regularly linked to the proliferation of a Christian world view, although depositional practices continue, such as the two halves of a sheep’s lower jaw carefully placed on a horizontal beam in the foundation of a 14th-century quay on the Thames at Trig Lane (Merrifield 1987, p. 118). These represent a largely underused and poorly understood dataset which may not always sit comfortably with our impressions of the ‘familiar’ historical past. In the mortuary theatre, the continuation of symbolic roles may have been facilitated by a transfer from animal burials to iconographic programmes on Christian funerary monuments (Bartosiewicz this volume).

On the other side of Europe, at the north-eastern frontier of Christendom, there is evidence for a more familiar type of ritual

practice at this time – in pagan Lithuania. Although archaeological evidence for horse burial here rapidly diminishes after the 12th century (before the crusades are launched against Livonia and Prussia), written sources into the 15th century describe occasional incidents of spectacular sacrificial rituals involving fire, horses, dead grand dukes and captured prisoners (See Bertašius this volume). When synchronised with the political history of early medieval Lithuania, the decreasing frequency of horse sacrifice which becomes increasingly restricted to the central region can be convincingly aligned with the growing temporal and spiritual power of the Grand Dukes, alongside religious institutionalisation (Bertašius 2006). Taphonomically, the interpretation of Lithuanian horse sacrifices as ‘living burials’, points to a disturbing and specific ritual which must have developed following a particular process of rationalisation (Morris this volume). This process deviates from the trajectory of horse burial rationalisation in nearby Scandinavia. Indeed, Fern, Salvadori and Leifsson’s case studies of horse burial in Early Anglo-Saxon England, Migration Period Italy and Viking Age Iceland respectively, illustrate the cultural specificity of what, superficially at least, seems like a comparable ritual practice.

Although horse burials may be iconic of ritual slaughter in north European societies, they are specific expressions associated with elite classes where broader social participation may have been limited to the sidelines of the killing ground. They are also taphonomically easier to understand than the dispersed remains of ritual feasting; animals were not only killed and deposited within pits, but, perhaps more commonly, were also consumed. Sometimes the material waste from ritual feasting is very difficult to detect, as lamented in Kuczkowski and Kajkowski’s survey of animal remains recovered from Pomeranian cemeteries. Here the resonance of the taphonomic process extends beyond the dispersal of material at the time of feasting through to the inconsistent nature of archaeological excavation, recording and reporting. In other instances, histological studies may increasingly contribute to testing assumptions concerning the relationship between food waste and buried animal carcasses (Mulville *et al.* this volume). However, even if taphonomic processes disperse and fragment disarticulated animal bodies, the characteristics of the site may point to a special, sacral significance, as in the case of Magnell’s study of the assemblage from Üppakra and Horváth’s intra-site analysis of deposits at Balatonöszöd–

Temetői dűlő. On the other hand, Reynaud Savioz's analysis of animal deposits at Gamsen links ritualistic activities with domestic space. Attempting to reconstruct the meanings behind such ritual killing and burial is much more difficult. Spatial relationships within the archaeological matrix are of course a fundamental point of departure, whilst the end point of interpretation often involves support and inspiration drawn from ethnographic and historical sources.

Ethnographic and historical analogues

The use of ethnographic analogues is well established in archaeological research and their problems and limitations continue to stimulate debate. Indeed, much of the theoretical framework supporting our understanding of ritual killing is generated by anthropologists, the seminal work on the subject being Maurice Bloch's (1992) *Prey into Hunter*. In historical archaeology, written sources are regularly drawn upon – effectively fragmentary ethnographies with all the added complications – to inform interpretation of ritual practices and in particular, the killing and burial of animals. This is not the place to revisit the vast corpus of critical scholarship on this topic, but in the light of the contributions in this volume it is worth briefly considering the potential of these sources for furthering our understanding of material practices.

Anthropologists have provided us with a very realistic sense of the drama surrounding public ritual killing. The slaughter of water buffalo by the Kodi of Sumba is a desperately – and deliberately – violent event, as the animals struggle against their executioners (Hoskins 2009). Of course, not all ritual slaughter is theatrical or intended for public consumption; today, the process of *dhabihah*, the ritual slaughter of animals in the provisioning of halal meat for a global market is fast and mechanical, geared for commerce, whilst at the same time an integral part of religious praxis (Bonne and Verbeke 2008). The religious dimension framing culinary choices is easy to forget in quantitative zooarchaeological analysis, for what are the butchered remains of sheep and pigs in medieval archaeological rubbish deposits anything other than simply food waste? Where more detailed information is available, it is clear that ritual practices may be expressed in more nuanced and complex

ways regarding the alimentary role of particular animals. This has been elegantly documented in Claudine Fabre-Vassas' study of the social dimensions of meat consumption in Christian Europe. One example she cites concerns the build up to meals consumed during religious festivals in central-southern Spain, and more broadly in the south-western Mediterranean. In Cáceres, a lamb is adorned with ribbons and pompoms and paraded through the streets as a preamble to the local festival of Santísima Virgen de la Montaña. The lamb, sometimes referred to as the Paschal lamb, is then killed on the second Sunday after Easter and eaten outdoors near the sanctuary; in other villages its meat is mixed with or served alongside pork, where the pig's killing and consumption under specific circumstances serves to identify good Christian practice, and its choreographed slaughter "coincides with the rhythms of the destiny of Christ" (Fabre-Vassas 1997, p. 256).

Ultimately statements concerning religious pantheons (to whom sacrifices are presumed to be offered) and the semiotics of ritual killing need to be critically re-examined, and their point of departure should be based on the archaeological material, especially in the case of prehistoric sites. Even in historical contexts where written sources are available, north European external imaginings of pre-Christian religion are often taken out of their spatial and temporal context. The otherworldly role of the dog, for example, is widely cited as an Indo-European phenomenon. Named individuals such as Cerberus or Garm are taken as avatars of a widely shared archetype that can be readily shuffled around in time and space. But these are specific products of their time, and even if they emerge from an intangible backdrop of shared archetypes, they play particular and nuanced roles within their own settings (Bartosiewicz this volume). It is the peculiarity of these roles under specific circumstances – such as the phenomenon of deliberate dog burials in southern Scandinavia during the Late Iron Age – that provides us with an opportunity to understand their contemporary significance. Of course the longevity and changeability of these roles raises important questions, relating to the temporality of ritual practices. Why do specific traditions of ritual killing begin and why do they end? On the other hand, the recurring and widespread nature of ritual slaughter and burial prompts us to move beyond the specificities of individual cultures. Comparing key elements of the case studies presented in this volume, it is possible to highlight

some broader trends.

European trends in the ritual killing and burial of animals

Animal ritual killing is a feature of both prehistoric and historical societies, and over the vast timeframe covered by the contributions it is clear that domestic mammals are the preferred animals of choice. These animals have both clear economic value and are already under human management and control. Cattle, sheep, goats, pigs, horses and dogs represent the most frequently encountered ABGs. However, perceived economic significance does not always correlate with deposition trends; moreover the deposition of animal remains within a ritualistic context does not necessarily follow on from ritual killing and *vice versa*. Despite the limited role of wild bovids in the Alpine Foreland during the Late Neolithic, they have been identified as the principal ritual animal (Steppan this volume), whilst the significant role of deer in Bronze Age Hebridean culture is not reflected in their burial (Mulville *et al.* this volume). Perhaps the most famous example of sustained wild mammal deposits are the bear burials associated with the circumpolar Saami (Zachrisson and Iregren 1974). It is of course very difficult, if not impossible, to link archaeological deposits of wild animal bones with hunting or trapping activity which in itself can be identified as the start of the ritual chain. It may be that the identity of an individual animal or species made it suitable for a particular ritual which culminated in a choreographed deposition, but without additional information regarding the circumstances of killing and carcass processing it is difficult to make these links. There are of course exceptions. Mesoamerican societies with their institutionalised cultures of ritual killing drew on a rich array of symbolically charged fauna, some of which may have been procured specifically for the purpose of the ritual. Excavations at the Pyramid of the Moon in Teotihuacan (Mexico) uncovered foundation sacrifices, commencing around 200 AD, which included a range of wild species alongside people. One of the most striking assemblages (Building 4; Burial 2) included two pumas and a wolf inside wooden cages, nine eagles, one falcon, one owl and three small rattlesnakes. Excrement found inside one of the cages suggested the animals had been buried alive (Sugiyama 2004, pp. 109–110, [fig. 4.5](#)).

The creation of such assemblages from Mesoamerica to China is

regularly associated with expressions of political and religious authority. The role of social relations in driving series of ritual killings is raised by several contributors, particularly in the studies of horse burials, as well as the animal deposits associated with the Globular Amphora Culture in Poland (Szczydzinski this volume). Such rituals could be used to express complex social identity (e.g. Elsner 1991), membership of a confident, elite, equestrian class (e.g. Fern this volume) or the deliberate maintenance of an ethnically distinct tradition (e.g. Salvadori this volume). They can even be associated with state formation in Europe (Mindaugas this volume) and beyond (e.g. Yuan and Flad 2005). These societal correlations identified through detailed surveys of multiple sites are interesting, which is not to say they invoke the dichotomy between the sacred and the profane. Although it may be very difficult to situate social status within the holistic context of a world view – reconstructed on the basis of fragmentary evidence – it is clear that political identity was regularly supported by a cosmological framework. Many of the contributions draw attention to the symbolism attached to death, and the transition from the realm of the living to the dead would have been inescapably emphasised to both public and private audiences during combined killing and depositional events. As already suggested, religion plays an extremely influential role in food choice (Musaiger 1993; Dindyal 2003) and the link between ritual killing and feasting has been explored by a number of contributors. The processes leading up to the deposition of ‘food offerings’ are often obscure, but may have involved significant ritualistic components.

Where animals were killed without functioning as ritually prepared food (where this is possible to determine), there is a general assumption this slaughter, especially by the graveside, formed a carefully organised theatrical display. In this context domestic animals would be easy to handle and choreograph, right up to the point of killing. The slaughter of multiple animals in single events must have been particularly striking. These formative rituals, which only appear to have happened under certain circumstances, would have been violent, bloody, traumatic events for all involved, as eloquently described by Neil Price (2010, p. 136) in the context of the ritual killings associated with the burial of the ship at Oseberg: “The graceful lines of the Oseberg ship as it is currently displayed in Oslo belie the fact that at the time of burial

it must have been dripping with blood. How did the animals react after the first of their number was killed? It is not difficult to imagine the noise, to visualise the gore covering ship, objects and onlookers, and to scent the blood and offal. This is not an exercise in gratuitous melodrama, but an attempt to recapture an integral part of the funerary experience for those who were there.” The power of such events to both shape and reaffirm cosmological truths should not be underestimated.

Finally, the long term, diachronic perspective of archaeology offers a window into the temporality of ritual killing. Whilst the meanings behind similar-looking deposits may have changed over time, it is possible to identify continuity in certain types of deposits and rituals (Groot this volume). The development of European societies from the Neolithic through to the Middle Ages witnessed multiple traditions of ritual killing. The specificity of these processes can be quite striking, such as the practice of depositing the remains of butchered sheep carcasses in building foundations or in boundary contexts on certain pre-Roman, Romano-British, and perhaps Anglo-Saxon sites in England (Maltby this volume). Although discontinuous and culturally specific over this extensive timeframe, how do these ultimately relate to each other? This fundamental question must invariably move us away from the individual site, region and culture to an inter-regional understanding of the ebbs and flows, the creation and recreation of recurring material practices.

To conclude, the sixteen contributions in this volume demonstrate the continuing importance and development of interpreting the unusual treatment of animal remains in the archaeological record. They include case studies from Iberia, Lithuania, England, Scotland, the Netherlands, Italy, Hungary, Germany, Poland, Sweden, Iceland and Switzerland, whilst extensive research has been also been done on traditions of animal ritual killing in the pre-Classical and Greco-Roman world, as well as across the eastern Mediterranean (e.g. Stocker and Davis 2004; Hamilakis and Konsolaki 2004). Indeed the ritual killing and burial of animals is a fundamental element of many cultures not just in Europe, but across the world. The processes involved lie at the heart of societal development and shared value systems, and in this respect the zooarchaeological contribution is crucial to furthering our understanding of the complexity of human societies, both past

and present.

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2

Animal ‘Ritual’ Killing: from Remains to Meanings

James Morris

Introduction

As humans, we interact with our environment and the other species inhabiting it in a variety of ways. Animals not only provide a source of sustenance, but a means for humans to express their social concepts through interaction. The range of human interactions with other species can still be seen in our modern world; such as the use of animal characteristics as metaphors and the humanisation of certain species. Douglas (1990, p. 33) suggests we think about how animals relate to one another, on the basis of our own relationships. Therefore, human social categories are extended into the animal world. Classical literature can offer examples of this. Aristotle (*Politics*, 1254b) discussed the similarity between working animals and slaves, which in Roman law were treated together, noting “the usefulness of slaves diverges little from that of animals; bodily service for the necessities of life is forthcoming from both”. This entwining of the human and animal worlds was also present in the form of animal sacrifices and Gilhus (2006) has discussed the inventions and developments of such a tradition in depth. Evidence of animal sacrifice is not just limited to the Classical world, for example we also have evidence from iconographic depictions from Mesoamerica (Emery 2005), as well as ethnographic observations (Morris 2000, p. 138).

The challenge we face is to use archaeologically recovered faunal data to investigate such social zooarchaeological issues. As the majority of animal remains are of a fragmentary nature, most

investigations into social concepts have utilised articulated animal remains. A number of terms have been used when discussing such concepts including animal burials and special animal deposits. However, for this paper the term associated bone group (ABG) has been adopted. Although at first it may appear unimportant, the terminology and language used by archaeologists describing a deposit can greatly influence its interpretation, and importantly, the concepts of other archaeologists. Terms such as 'special', to many archaeologists, automatically implies a ritual connotation, similarly 'burial', a term utilised mainly for human remains, may conjure images of a ceremonial/ritual event. This is important because within British archaeology the interpretation of these deposits has been stuck in a dichotomy between the ritual and the mundane (Morris 2008a; 2011). Hill (1995) was also critical of the use of 'special deposit' and suggested the term associated/articulated bone group, to remove any connotations.

This paper draws on the results of a project that investigated the nature of ABGs in Britain from the Neolithic (c. 4000 BC) to the end of the late medieval Period (c. AD 1550). Due to the large time-span it was not possible to investigate every deposit in Britain, therefore just published data from southern England (Dorset, Hampshire and Wiltshire) and Yorkshire was utilised. The results of the project are discussed in detail elsewhere, along with a complete list of the sites recorded (Morris 2008b; 2011), therefore a brief overview of the major trends will be discussed here. Further consideration will then be given to the interpretation of these deposits and a biographical method based on the actions used to create the ABG will be considered. Finally the paper will use this approach to discuss the presence of ritual animal killings in the British archaeological record.

A variable deposit

A search of the literature regarding ABG deposits would lead one to think that they were predominately a prehistoric, and in particular Iron Age (750 BC–AD 43), phenomena. However, the review of published faunal reports shows that this is not the case. Overall, this project recovered the details of 2066 ABG deposits, of which the majority came from Romano-British, 44% (908) and Iron Age, 38% (784) contexts. Interestingly medieval sites produced a larger

proportion of the assemblage, 12% (258), compared to the earlier Neolithic and Bronze Age combined, 6% (116). Therefore these deposits appear to be more common from historic sites, which is surprising, considering the majority of the literature on 'animal burials' concerns prehistoric deposits. This difference, especially between the early prehistoric and medieval periods, is also shown when the number of sites with ABGs present is examined. The project recorded all available published sites where faunal remains were recovered, therefore allowing the proportion of sites with ABGs present to be explored. Deposits were recovered on over half of all Iron Age, Romano-British and early medieval sites with faunal remains present (Figure 2.1). In comparison they were recorded on only one third of Neolithic and one quarter of Bronze Age sites. This difference between the early and later prehistoric periods could be due to the nature of the archaeology. The majority of the Neolithic and Bronze Age archaeology in Britain consists of funerary monuments. In comparison, much of the data from the Iron Age onwards comes from large settlement sites, such as Danebury (Grant 1984) and Owslebury (Maltby 1987), as well as later urban sites like Dorchester (Maltby 1993) and York (O'Connor 1988; 1989). We must also consider the scale of excavations, the majority of earlier prehistoric sites are excavated on a relatively small scale compared to some of the later urban investigations.

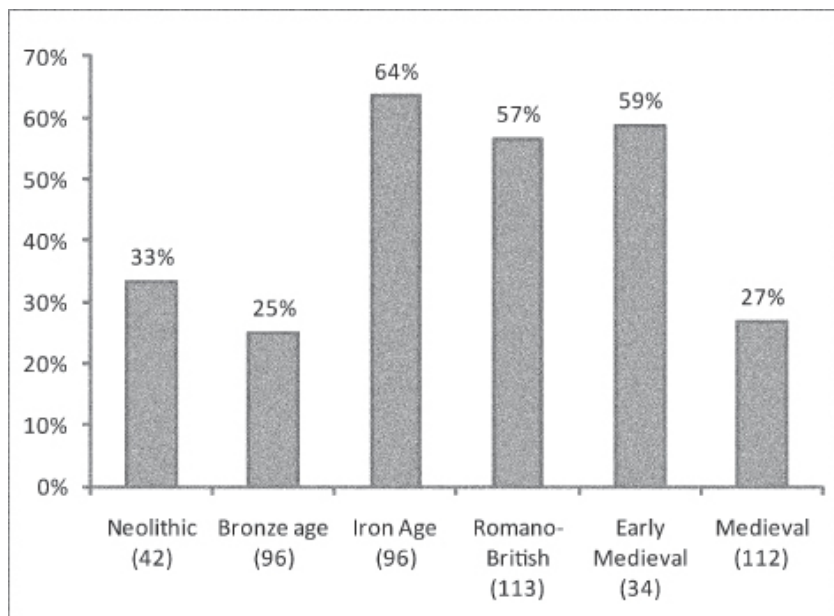


Figure 2.1: Percentage of sites with ABGs present. Total number of sites in brackets.

The composition of the ABG assemblages also varies between periods. This is best shown by considering the species deposited in this manner. Firstly, domestic mammals dominate the assemblages from each period and region. This is interesting considering the importance placed on wild species by authors such as Green (1992). Overall, wild mammals account for only 4% (76) and wild birds 6% (121) of the total ABG assemblage. There is however variation, for example the higher percentage of wild mammal and bird ABGs on later Medieval sites compared to the Iron Age does call into question some of the assumptions made in 'Celtic' centric literature.

Although domestic mammals are common, there is variation in the species proportions between periods (Figure 2.2). For the prehistoric periods the most common species appears to correlate with the most common non-ABG species, with cattle in the Neolithic and sheep/goat in the Bronze Age and Iron Age. However, just like the 'normal' faunal assemblage this overall pattern does not translate to every site. For example the majority of late Bronze Age deposits at Poundbury were cattle (Buckland-Wright 1987).

One of the notable trends in the ABG assemblage is the gradual increase in dog remains and by the Iron Age dogs are the second

most common species. However the proportion of dogs vastly increases in the Romano-British period to make up 43% of the assemblage (Figure 2.2). This change is not a sudden one and the early Romano-British pattern on non-urban sites is very similar to the late Iron Age (Morris 2010b). This appears to be related to a change in the social identity and practice of local groups. From the Romano-British period onwards the species proportions of the ABG and ‘normal’ faunal assemblages no longer correspond, with dog the most common in the early medieval, and domestic fowl (chicken) in later medieval periods.

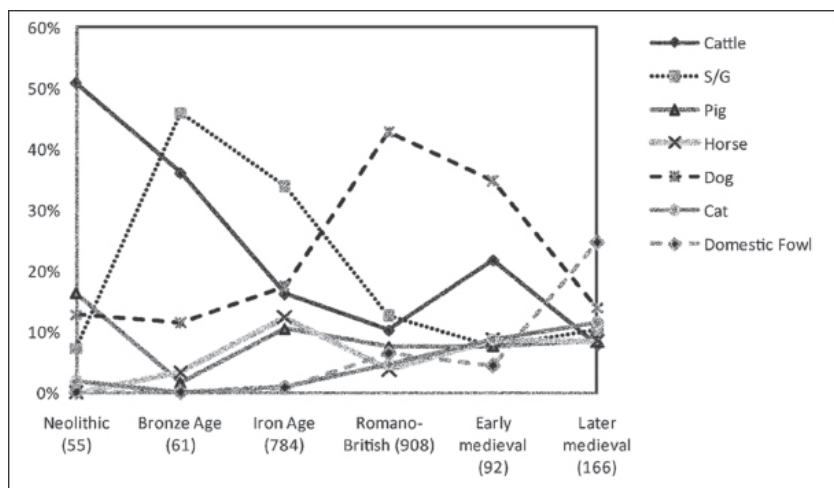


Figure 2.2: Percentage of ABG species per period. Sample size in brackets.

As well as variation in the species deposited as ABGs, the composition and context of the deposits also differs between periods, sites and features (for more detail see Morris 2011). The majority, 61% (1256), of the deposits recorded for this study consist of partial skeletons, 26% (535) were complete (meaning all body areas were represented, not necessarily all bones present) and the rest unknown. Some species, such as domestic fowl, were often found complete, 56% (109), in comparison with only 8% (155) of complete horse ABGs (Morris 2010a). Amongst the partial ABGs, the elements deposited varies between time periods. For example, the majority of cattle and sheep/goat deposits in the Iron Age (700 BC–AD 43) and early Romano-British (AD 43–150) periods consist of axial elements. However, from the middle Romano-British period (AD 150–350) the proportion of axial elements drops and lower

limb bones such as the metapodials and phalanges often form ABG deposits (Morris 2008a). Finally, these deposits, although commonly recovered from pits, are found in a wide range of context types across all periods. These can range from a partial sheep/goat deposit recovered from a Bronze Age post-hole at Shearplace Hill (Dorest) (King 1962) to the articulated horse limb bone incorporated in the metalling of a mid Anglo-Saxon road at *Hamwic* (Southampton) (Bourdillon and Andrews 1997).

From actions to meanings

This variation in the composition and nature of ABG deposits becomes extremely relevant when we start to consider how they are interpreted. Although they have long been noted in the archaeological record, such as the remains from Swallowcliff Down (Clay 1925) and Maiden Castle (Wheeler 1943, p. 54), it was not until the 1970's that British archaeologists started to regularly offer interpretations. Throughout this project the interpretation of the ABGs suggested by the original reporting author was recorded, with these ranging from 'cullings' to 'offerings'. A functional interpretation was recorded when a number of possible 'functional' suggestions were put forward, rather than one specific explanation. A ritual/sacrifice interpretation was recorded when the original author alluded to a form of ritual activity, often mentioning the possibility of sacrifice, but without giving a specific explanation. Overall, twelve different explanations were recorded, with the data showing that prehistoric (Neolithic to Iron Age) deposits are often viewed as the result of a ritual/sacrifice, whereas historical (Romano-British onwards) deposits are most often give 'functional' interpretations (Table 2.1). This suggests that the interpretation of these deposits may be linked to our knowledge and preconceptions of archaeological time periods.

An example of how our preconceptions are linked to archaeological periods is shown by the interpretation of two complete sheep ABGs from excavations at Mildenhall, Suffolk (Morris 2009). The site consists of an Iron Age settlement, and includes a number of complete and partial ABG deposits from the pits and ditches. Recovered in the remains of a shallow ditch were two overlaying sheep skeletons (Figure 2.3). Although the ditch they were recovered from could not be dated it was assumed by the

excavating team that the ABGs represented ‘ritual’ Iron Age deposits. However, upon examination of the skeletal material the sheep turned out to be modern 20th century animals, buried by the previous farming occupant of the site. This resulted in the deposits interpretation being changed from a ‘ritual’ deposit to a more pragmatic, utilitarian one. It is worth considering how the interpretation of remains can become set within the field before there has been a chance of a dialogue between the zooarchaeologist and field work team.

A striking aspect of the interpretation data is the variety of ‘functional’ explanations compared to ‘ritual’ ones ([Table 2.1](#)). For example, the majority of the Iron Age ABGs interpreted as ritual are mainly seen as ritual/sacrifice. One deposit, a complete juvenile cow found in a pit underneath round house 1 at Garton Slack (East Yorkshire), was interpreted as a foundation offering (Brewster 1980). All of the Iron Age and Romano-British ABGs interpreted as offerings were recovered in association with human remains. Therefore, in some circumstances the context and associations of the deposit do influence the interpretation.



Figure 2.3: The Mildenhall Hall modern sheep burials. Photo courtesy of Archaeological Solutions.

The Romano-British data shows some interpretations are linked to species. The most common explanation recorded for this period is that the deposits represent the ‘culling’ of an animal ([Table 2.1](#)). All of the ABGs given this explanation are dog remains, with the exception of one raven from Oakridge Well, which was interpreted as being culled to remove a potential threat to livestock (Maltby

1994). The majority of the dogs interpreted in this way are from Maltby's investigations of the large faunal assemblages from Dorchester and Winchester (Maltby 1986; 1993; 2010b). However, recent work by Woodward and Woodward (2004) has reinterpreted the Dorchester dog and other ABGs as part of the foundation ritual associated with the founding of the town. They suggest dogs are traditionally associated with healing, fidelity and protection of humans and therefore suitable for ritual sacrifice and deposition within ritual features. Smith (2006, p. 43) demonstrates that dog sacrifice was carried out in Rome. During the festival of *Robigalia*, rusty-coloured sucking puppies were sacrificed to protect crops, and a ritual *Sacrum Canarium* (dog sacrifice) was carried out by priests in Rome around the same time as the *Robigalia*. The point that sacrifices occurred in the Roman period is not a contentious one. However, Smith does not indicate whether the carcasses were deposited in a specific way. Maltby (2010a) has recently reviewed the Dorchester evidence pointing out that the nature of these deposits are variable.

Therefore, some interpretations appear to be influenced by factors such as the date, type of context and species deposited. However, the majority of ABGs viewed as the result of ritualised activity are still interpreted merely as *ritual/sacrifice*. The use of such a generalised category is related to the nature of 'ritual' as a concept. Handelman (2006) has suggested there is a metalevel *ritual* which encompasses all ritual activities. Therefore feasting, sacrifice and offering deposits are all separate ritual acts, which are classified under the general term ritual. There is also a meta-level concerning the functional/practical, with culling, disease, natural death etc, all part of the *functional* category of activities. To use taxonomy as an analogy it is the equivalent of identifying to family rather than to species. Of the 474 ABGs interpreted as ritual in nature, the generic meta-level ritual/sacrifice explanation was utilised for 354 (74%) of them. Sacrifice has been added to the meta-level category because the majority of publications that use the meta-level explanation for ABGs alluded to the animal being sacrificed. The use of ritual as an interpretation is also related to archaeologists' concepts. Hodder (1992, p. 223) has suggested that it is used because what is observed is non-functional and not understood. Functional is not utilised as an explanation on its own as it is understood. Therefore, a sub-category, such as culling deposit, is used. As ritual is not

understood, this leads many archaeologists to use the meta-level *ritual* as an explanation in its own right (Morris in prep).

Whilst discussing Iron Age ABGs, Hill (1995) argued ritual was embedded within everyday activity, suggesting that ritual as an independent act did not exist. This point has been noted by other authors. Brück (1999) has argued that many societies have a monist rather than a dualist mode of thought; ritual and functional are not separate concepts. We view such concepts as separate because of our modern western outlook. Bradley (2003; 2005) has also suggested that throughout prehistory ritual and domestic life are intertwined and it is impossible to separate them. Pluskowski (2002) has noted that in the Medieval Period the conceptual and physical were interwoven. If this is the case, then the use of meta-level interpretations for ABGs is at best unhelpful. Hill (1995) does try to move beyond such interpretations by suggesting ABGs represent the remains from feasting as well as possible offerings, with the domestic and the ritual intertwined at such events; however, the majority of archaeologists have not been as successful, preferring meta-level categories. In effect, we as archaeologists are stuck in a loop of thought regarding these deposits. We recognise that the functional and ritual divide probably did not exist, yet we still need to explain why ABGs are present, and different, to the ‘normal’ faunal assemblage and are constantly drawn back to vague ritual interpretations. It is this inability to separate ritual and functional explanations that has led to a number of authors offering mixed interpretations (Table 2.1). However, such approaches are as unhelpful as meta-level explanations, because they do not try to combine ritual and functional, they are simply offering alternative, either/or, explanations. Neither metalevel nor mixed interpretations are actually telling us why ABGs were created.

Period of deposit	Neolithic	Bronze Age	Iron Age	Romano-British	Early Medieval	Later Medieval
Functional		9	8	8	1	8
Culling			17	238	10	7
Disease			1	9	1	19
Fall			14	32		
Natural death		1	82	95	6	12
Waste	7	5	221	141	33	56
Mixed	6	6	94	115	4	1
Ritual/	24	28	237	64	1	

Sacrifice						
Feast	14					
Foundation			1	2		6
Offering						
Offering	1	1	25	68	2	
Unknown	3	11	84	136	34	53

Table 2.1: Summary of the total number of interpretations given to ABGs in each period. Mixed deposit means both a ritual and functional explanation is offered.

One of the main reasons archaeologists have such a problem in defining ritual is that many still associate it exclusively with religious and spiritual beliefs. However, social anthropologists have shown there are many different types of rituals. These can be secular, religious, class-related, sexrelated, personal etc. (Bell 1992; 1997; Humphrey and Laidlaw 1994; Kreinath *et al.* 2006). Although rituals are often a part of religious practices, each has a different meaning and purpose and many secular rituals also exist. Therefore, we should not instantly equate ritual with religious. The characteristic that most ‘rituals’ examined by social anthropologists share is that the actions are formulaic, there is, in effect, a script (Snoek 2006). Perhaps we should see ritual as framing a formularised action/activity. If this is the case, then we could argue that a large proportion of the archaeological record was created by a ritualised act. However, using the term still keeps us at a meta-level of explanation. Brück (1999) suggests a way forward is to jettison ritual and instead look at rationality. In effect, Brück is arguing that we should try to understand why people are ‘doing things’ without imposing our concepts upon the people. This is a useful suggestion for ABGs, as we need to move away from meta-level explanations of activities. However, ritual as an activity/concept/event does exist and it would also be a very hard task to remove ritual from the archaeologist’s mindset. With regards to ABGs, ritual is not a problem; it is the use of the term as both a description and an interpretation where the problem lies. To develop our understanding of ABGs we need to start looking at specific explanations regarding their creation.

Associated bone groups represent only the final action in a possible long series of events. To fully understand these remains we need to move away from the below ground deposit and consider the above ground events behind their creation. Therefore considering

the animals 'life history', rather than concentrating on a single time-frame, their final resting place prior to archaeological recovery. An understanding of an object's existence can be gained by adopting a biographical approach. This draws on the work of Igor Kopytoff (1986) who suggested 'things' could be examined at multiple points in their existence such as creation, exchange, consumption and death. In general, the biographical approach allows artefacts to become 'networks of significance' (Thomas 1996, p. 159), given 'secondary agency', in that they do not have the power to initiate happenings, but are objective embodiments of the power society or individuals have given them (Gell 1998, pp. 20–21). Such theories are just as relevant to human-animal relations. For example, consider contemporary western reactions to dogs (man's best friend) and snakes (association with evil); both species embody different meanings and their secondary agency will cause very different reactions in humans. Although drawn from anthropological theory, there is also an intertwined tradition of examining objects 'life histories' within archaeology (Jones 2002, p. 84; Schiffer 2005; Skibo and Schiffer 2001). The *chaîne opératoire* is used to examine events and their underlying decisions in object manufacture (Dobres 1999). In addition use-wear analysis has also been utilised to examine an objects life. Such approaches are normally associated with 'created' objects such as flint, metal and bone tools, however, the ABG deposits discussed here are also cultural creations. In this regard the biographical study of ABGs and other animal remains draws upon the work of Schiffer (1983; 1987) and a taphonomic approach to the formation of the archaeological record.

The biography of artefacts is also the study of transition, as artefacts acquire different meanings throughout their 'life'. Animals could be viewed as undergoing a large number of transformations as they supply primary and secondary products. For example, when alive, cattle may supply traction which could be used to plough and transform the land. In later life they may be slaughtered for meat, at which point part of it becomes food, and the bones or horns may become the raw material for an artefact. When these are removed from the animal, the meanings and agency of its parts are transformed. Therefore, when we are examining ABGs we are not viewing the original animal, but the results of a transformation process enacted upon it. In studying such transformation

zooarchaeologists are well placed as biological data can offer an advantage when constructing biographies. In effect, the biological nature of animals, compared to other forms of material culture, offers us a baseline, upon which we can view the humanly created transformations. Therefore, any alteration to the morphology of animal remains has been caused either by specific human or non-human taphonomic actions. Such actions can result in markers upon the osteological material. We can start to build up a picture of the events which have led to the deposition of the faunal remains, a biography of the deposit.

It is probably safe to assume that the majority of ABGs recorded in this study have at some point been affected by human agency. Most do not consist of complete skeletons but are partial skeletons. To be deposited in this state they must have undergone some form of disarticulation, either naturally or by human hand. Therefore, it is the taphonomic process that has created the ABG. To identify what was involved requires further investigation of the bones to look for evidence such as butchery marks. The formation of the ABG begins with the death of its constituting animal. Death may either be due to human hand, or natural causes such as old age, disease or accident. An animal may die naturally within an archaeological feature by simply falling into it. Although such pitfall victims are often smaller mammals and amphibians, a number of larger animals have also been interpreted as pitfall victims (Morris 2011). An animal that dies naturally may also be subjected to a form of human influence. A diseased animal may be buried to stop a disease spreading, as in the modern cases of stock afflicted with BSE and Foot and Mouth disease. Alternatively, non-diseased animals may also be buried whole due to socio-cultural reasons. With such instant burial we would expect a complete ABG to be formed, as no biostratinomic factors such as gnawing would have affected it. However, this does not mean that a complete ABG will be encountered by the archaeologist, as post-burial taphonomic effects such as slumpage and intercutting may result in the separation of the bones. Fortunately, such effects can be visible archaeologically and therefore taken into account, assuming they are reported. If an animal is subject to human agency in the form of butchery and/or biostratinomic effects we could expect a range of deposits to be formed on a sliding scale from a complete ABG to none at all (Figure 2.4). This is not to assume that the butchery

taking place is purely for ‘functional’ reasons as Hill (1995, p. 59) points out:

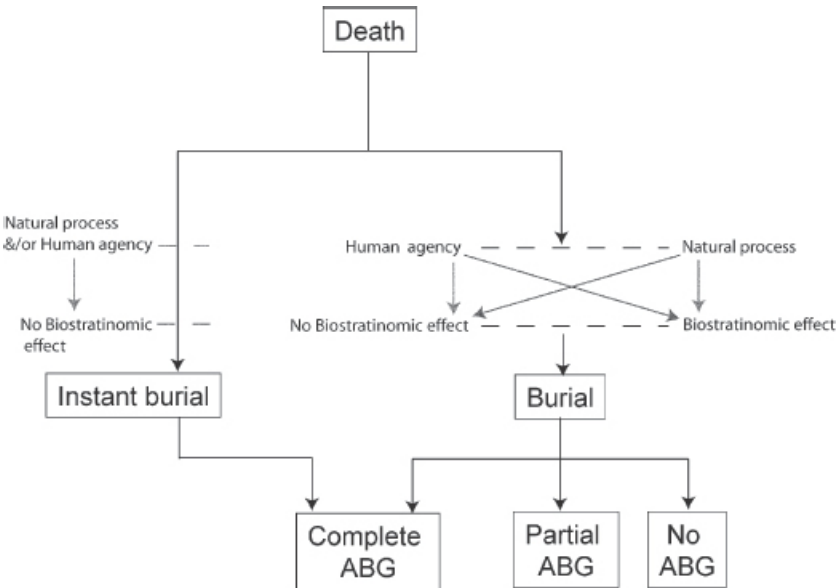


Figure 2.4: Basic model of an ABG's creation.

“...ritual would have used the same technologies and practices as mundane (butchery etc). As such ritual draws from and reproduces the same generative principles as other social practices”.

In Classical Greece the same vocabulary encompassed both butchery and sacrifice (Gilhus 2006, p. 115). Therefore, the techniques used for the disarticulation of an animals leg for ‘ritual’ purposes is the same as the disarticulation of the leg for meat processing. The reasons for the actions may be very different, but the actions and practices used for the processes are the same.

The starting point of a biography of animals is therefore an investigation of the transformations that occurred during their life history. However, as Joy (2009) suggests, the biography of an object should not be restricted to its birth, life and death, rather it is comprised of the sum of the relationships it constitutes. It is by investigating and theorising transformations we can start to reveal the possible relationships animals and ABGs constitute.

Ritual killings

The biographical approach allows us to develop a life history of an ABG deposit and thus enables the interpretation of events behind a deposition. For example, if we consider the remains found within the Iron Age inhumation at Kirkburn (Yorkshire) a number of transformative processes can be theorised. Excavations in the late 1980's recovered a number of Iron Age burials of the Arras tradition dating to approximately 300–200 BC. One particular grave (K5) consisted of a chariot burial, but also contained two ABGs. The inhumation was of a 25–35 year old male, the wheels of the chariot had been dismantled, with the body laid at the junction between them. Copper alloy horse equipment and other objects were deposited in the grave; an iron mail coat had also been laid over the inhumation (Figure 2.5). Two partial pig ABGs were also present. The main deposit consisted of a head, upper and lower forelimb positioned close to the head of the inhumation. The other consisted of an upper and lower forelimb placed close to the inhumation's knees, on top of the mail coat. It is probable that the pig remains all came from the same animal as both the right and left forelimbs are present. In total 25 pig elements were recovered, with tooth wear and epiphyseal fusion indicating they came from a sub-adult animal. Knife marks were also present on the upper front limbs, indicating they may have been defleshed before deposition (Legge 1991).

Similar ABGs were recovered from other Arras culture inhumations. Cunliffe (2005, p. 548) sees these as food offerings, or in the case of the pigs' heads, offerings for the spirit of the deceased. Legge (1991) suggests the defleshing of some elements may indicate the offerings are more symbolic. However if we consider the biography of the ABG and the events behind its creation a more detailed picture is given. During the construction of the grave a young pig was chosen for slaughter. The choice of pig must have been significant, as only pig remains are found as ABGs in Arras culture burials (Morris 2008b, p. 139). Pig remains are poorly represented in faunal assemblages from this region during the Iron Age, with cattle and sheep/goat providing the vast majority of the meat consumed (Hambleton 1999, p. 47). The pig would have been killed, most probably following the same methods as slaughter for 'everyday' consumption. However, we do not know if the act of slaughter would have had ritualistic meaning attached. The carcass would then have been skinned and eviscerated. Further

processing would have taken place to remove the pig's head and forelimbs. What we do not know is what happened to the rest of the carcass? Slaughter of such an animal may have been a relatively rare event and the meat from it may not have been wasted. Therefore, most of animal would have been transformed into food for the living and after consumption the axial and hind limbs may have been disposed of as 'normal' rubbish. However, the head and forelimbs were kept apart. Butchery marks on the upper forelimbs indicate that some of the meat may have been stripped from them. This meat may have been consumed with the rest of the animal, or possibly in a separate event linked to the construction of the grave. Eventually, the elements were carefully placed within the grave, their position on top of the iron coat indicating they were some of the last elements to enter the grave. As suggested the elements may symbolically represent food for the deceased. However, considering that the rest of the animal was consumed, perhaps these represent the deceased's share of a feasting event linked to the creation of the grave. Funerary activity is as much about the living as the dead, with events incorporating the creation and modification of social connections (Metcalf and Huntington 1991; Oestigaard and Goldhahn 2006). Therefore, if we consider the life history of the deposit it undergoes a number of different transformations from a living domestic animal to food suitable for the living, food for the dead and possible 'waste'. These transformations allow a greater insight into the activities and possible meanings behind such a deposit.

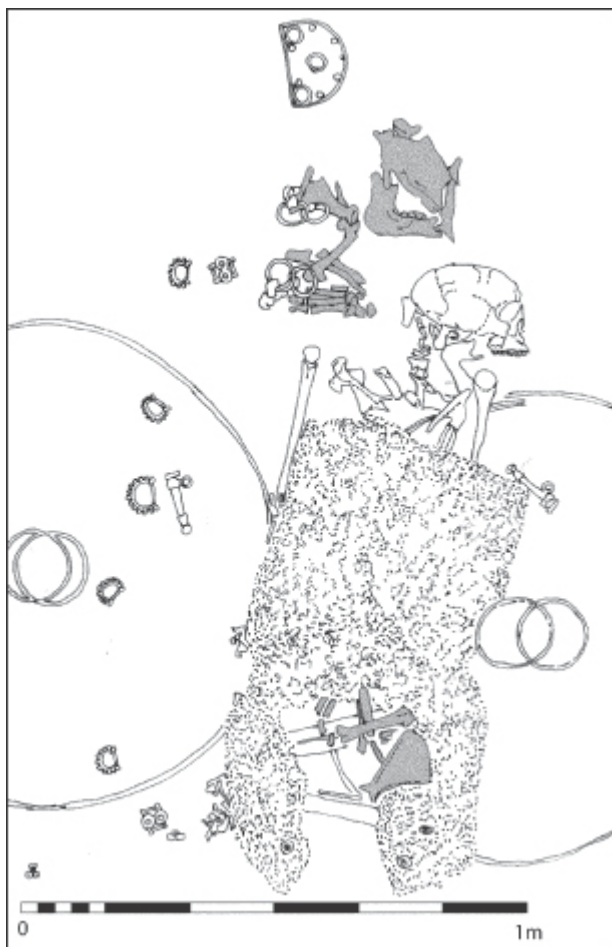


Figure 2.5: Plan of the Kirburn grave 5 inhumation. Pig elements are highlighted grey (altered from Stead 1991, figure 127).

One aspect that is unclear from the above examination is whether this ABG represents a 'ritual killing'. The identification of how an animal was killed is not normally possible. On occasion, killing blows such a pole-axe marks will be present in the 'normal' faunal assemblage (Rixson 2000, p. 233). Of the ABGs recorded for study, 107 (6%) of the domestic mammals had butchery marks present. However, there are a number of factors we need to take into account. Firstly, there is the almost universal absence of reports that explicitly record that butchery marks are not present. We therefore have to assume that butchery marks will be reported, if present.

This seems unlikely, as many reports do not even give basic body part information for ABGs. We must also consider the possibility that any carcass processing may not have left butchery marks on the bones of the ABG as it is possible for an experienced butcher to process a carcass and leave no marks. If we examine a non-ABG faunal assemblage such as the one from Greyhound Yard, Dorchester (Maltby 1993), only 26% of the cattle, 7% of the sheep/goat and 11% of the pig bones have butchery marks present, even though the carcasses of these species were intensively processed. Of the 107 ABGs with butchery only two had marks present which authors suggested killed the animal. A complete cow from the Bronze Age Crab Farm site had marks on the skull which were interpreted as being made when the animal was killed (Locker 1992). A partial dog ABG from Romano-British Silchester Insula IX, pit 2674, has cleaver marks to the skull and trunk, indicating a possible killing blow and subsequent carcass dismemberment (Clark 2006).

As mentioned above, we certainly have literal, iconographic and ethnographic evidence for ritual killing. Yet it appears unlikely that the majority of such events will leave specific evidence upon the osteological material. There are exceptions, such as the cut marks on the ventral surface of the atlas and axis at Gamla suggestive of *kosher* ritual slaughter (Cope 2004) and the nature of the horse ‘burials’ at the Marvelé burial ground, Lithuania (Bertašius and Daugnora 2001). However, as discussed above, the majority of ‘ritual’ killings would have used the same methodologies as ‘normal’ slaughter. Also, the sacrifice of an animal does not mean its remains will be treated differently to those animals killed just for consumption, for example in Rome the meat from public sacrifices was sold at market (Garnsey 1999, p. 134). Therefore, archaeologically it would be very difficult for us to distinguish between faunal remains from sacrificed and non-sacrificed animals, indeed in some societies there may have been no such division.

Perhaps we also need to consider what we mean by ‘ritual’ killing. For example, let us consider another ABG recovered from a Romano-British grave at Arlington Avenue. Grave 4381 contained the inhumation of an adult female and dates from AD 150 to 325. A complete juvenile female dog (sexed by the absence of a baculum) was recovered by the left side of the inhumation’s knee, it is interpreted as a possible companion offering (Maltby 2002). As the

dog is juvenile with no sign of trauma, we could assume that it was killed for inclusion in the grave, perhaps it belonged to the deceased. Could we consider the slaughter of the animal a 'ritual' killing? As with the example from Kirburn is the killing of the animal the important factor or the product of the transformation? Discussion of 'ritual' killing often leads to, and conjures, images of sacrifice. Yet the variable nature of the archaeological and historical record suggests that ritual killing should be viewed as a *polythetic* concept encompassing a multiplicity of phenomena, with overlapping family resemblances but no fixed criteria.

Conclusion

This paper has briefly discussed the nature of a specific deposit type, associated bone groups. It has shown how the composition of such animal remains varies both between and within different British archaeological time periods. This type of deposit was examined because it was often utilised in the exploration of social zooarchaeological issues. However, during such conjecture it is important to recognise that ABG deposits are, in fact, an archaeological construct, an artificial category applied to archaeological material. People in past societies did not go out and deposit an ABG. They carried out a number of acts and the associated agency resulted in the deposition of animal remains in variable states of association. Dependent upon the post-depositional taphonomic processes they undergo, such deposits may then survive and be recovered by archaeologists, who categorise them as ABGs, animal burials, special animal deposits, etc. This is one of the factors that have led to the use of meta-level interpretations of these deposits.

However, through the adoption of a biographical approach to ABGs, we can start to examine the differences in their composition, which in turn leads us to explore the differences in activity and associated agency involved in their formation. We must also consider that the biographies of individual objects are unique and biographical analysis should be confined to the scale of the individual object (Holtorf 2002). However, multiple biographies can start to point towards social patterns.

The adoption of such an approach leads us away from considering these deposits within a single time-frame, but rather as

the end result of a series of intertwined events and human actions. Therefore, one ABG deposit may have undergone a number of transformations and changes in social meaning through its life history. This can further help our investigation of the 'ritual' killing of animals, by showing that such events may be just the starting transformative process rather than a standalone activity.

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Ritualisation (or The Four Fully Articulated Ungulates of the Apocalypse)

Lee G. Broderick

Introduction

Although it was fairly common practice amongst zooarchaeologists to record ABGs (Associated Bone Groups) as “butchery waste” or as “fall victims” until the 1990s (Morris 2008), very little consideration has been given in the archaeological literature as to how ABG deposits which are not associated with ritual activity may be identified or interpreted. Indeed, there is an argument to be made that the focus of discussion upon the identification and interpretation of ritual deposits of ABGs may actually have contributed to the dominance of such interpretations in the archaeological literature during the last twenty years. In order to have a full understanding, it is necessary that all possible interpretations be discussed openly and evenly.

In 2008, field research was undertaken in Ethiopia in order to identify taphonomies which may produce ABGs in the archaeological record, and to develop ethnographic analogues for the same. The results of this fieldwork are presented below, and the potential archaeological interpretations of the data are discussed and compared with previous interpretations of ABGs as ritual deposits in the archaeological record. A historical context for some of the data collected is then suggested and other potential non-ritual interpretations of ABG deposits are also discussed. Finally, an approach to the future interpretation of, and research in, ABG

deposits is suggested and conclusions are drawn.

Fieldwork

In July and August 2008, ethnographic work was undertaken in various regions of Southern Ethiopia. This region was particularly badly hit by drought and by famine in the weeks preceding the field work (Anon. 2008; Campsie 2008; Phillips 2008; Stack 2008) and one of the aims of the project was to discern the impact that this may have had on the domesticated animal population in an area dominated by pastoralists and subsistence farmers. Upon entering the Gurage region, south west of Addis Ababa (Figure 3.1), the impact of the drought was instantly apparent, with dead cattle lying on the ground immediately outside of many settlements.

That the clear majority of the animals were cattle should not have been surprising, firstly since their size makes them more apparent than the remains of smaller animals when scanning the landscape, and secondly because cattle are the most important animal resource in Ethiopia (Barnett 1999). It was surprising, however, to find such clear indications of the drought in a region with average annual rainfall of c. 1300mm (Welde-Michael *et al.* 2008; Barnett 1999), comparable to the Scottish Hebrides, particularly the southern islands such as Islay (Gregory *et al.* 1991). Rain falls throughout the year in the Gurage region, although the three summer months are typically drier than the others – a situation which can be, and is, planned for and provisioned for through the use of such expediences as foddering (Broderick, field notes, 2008). More surprising still was that many of these still fully or partially articulated skeletons were lying in ditches, depressions and pits (Figure 3.2). Since the interpretation of ritual animal deposits in zooarchaeological assemblages often relies upon the deposition of fully or partially articulated animals in pits and ditches (Wait 1985), this would appear to be of some significance.



Figure 3.1: Administrative regions of Ethiopia (Source: UN Emergencies Unit for Ethiopia).

Since any significant movement after the flesh had decayed would separate the various skeletal elements, it was assumed that the animals had died and decayed in-situ. Upon asking about this in the Lumbe village, it was said that as a result of the exceptionally bad summer, when they ran out of fodder for the animals, dying animals had been taken outside the village and left for the hyenas (Broderick, field notes, 2008). It was estimated that each household in the village usually had 4 cattle, and that 4–5 animals had died in each household – whilst it is easy to question the apparent inconsistency in the precise figures, the impact of the event cannot be understated – this was a famine, instigated by an environmental catastrophe.

The explanation of leaving the animals outside of the village for the hyenas does beg some questions however. If the dying animals were preyed upon by hyenas and the dead animals were scavenged, then they would not be intact; the destructive processes on even the smallest elements by hyenas are well known (Faith *et al.* 2007). Furthermore, the likelihood of so many of the animals being present in pits and ditches after such treatment would appear to be unlikely, serving no functional purpose as either storage (thick bush

is preferred) (Owens and Owens 1978) or as an eating site. One thing that should be noticed, however, is that where cattle were partially, and no longer fully, articulated, it was usually the legs that had been removed (Figure 3.3), a feature consistent with hyena feeding habits (Owens and Owens 1978).



Figure 3.2: Partially articulated cow skeleton in ditch (Source: Author).

One possible explanation for such a pattern may be that in having such a relatively large amount of food available in such a short amount of time, the hyenas could afford to be choosy, leaving large amounts of meat behind, and some animals untouched altogether. That so many animals were contained in pits and ditches could be an effect of the weakened animals seeking the scant shelter that they provided (a habit often observed among ungulates, by the author) before dying there.

When I visited the village of Amba Genet, in the Gurage region, I was immediately presented with a paradox. Superficially, this was a very well kept village; the village as a whole being tidy, and the houses, individually, well kept. It soon became the single most depressing event of the entire expedition, however. As the villagers asked me for medicine, a tale emerged of the drought being followed by disease there. As elsewhere in the region, the prolonged drought had caused the villagers to run out of fodder for their animals. This problem they attempted to remedy by using the thatch from their houses to feed the livestock (Broderick, field notes, 2008). As the drought began to subside, so the animals

became diseased and began to die. The final part of this tragedy came when their enset (*Ensete ventricosum*) (the staple crop in the region) also became diseased.

The above pattern is probably a fairly common one throughout the world, with disease carrying insects returning with the first rains to feast upon the already weakened animals. Unlike Lumbe, however, Amba Genet was not surrounded by the skeletal remains of their livestock. This was something that had puzzled me as I moved around the region – why should one village be so obviously the victim of the drought, but not a near neighbour?

In the Western world, we do not dream of eating animals which die of natural causes. The reasons behind this are very sound, and so it should be of no surprise the practice is also common throughout Ethiopia (Broderick, field notes, 2008), since it is possible for some diseases to pass from animals to humans in this way (Krauss *et al.* 2003). In Amba Genet, and most probably other villages in the region, this logic is extended when it is known for certain that the animals die of disease. If an animal dies, it is immediately (or the next morning if it dies overnight) taken outside of the village, where it is buried and covered with a layer of thorns (to prevent the hyenas from digging it up) (Broderick, field notes, 2008). This is for the very practical purpose of attempting to stop the spread of the disease from one animal to another.



Figure 3.3: Partially articulated cow skeleton (Source: Author).

As the result of pestilence, another catastrophe; what has been

created is, in effect, an animal cemetery. In Amba Genet, 3–6 animals had been lost to disease in each household, with some households losing all of their livestock (Broderick, field notes, 2008). Each of these animals had been buried individually, with the graves effectively marked by thorns.

Interpretive background

In order to place these field observations within an archaeological framework, it is important to go on to consider how an archaeologist would interpret such a feature if it were found on an excavated site. Several animal burials, each in their own discrete burial pit, located around the edge of a settlement site (those observed were usually between 20m to 200m from the nearest house).

It has been stated that animals situated at the same horizontal level in pits are clearly of ritual origin (Wilson 1999), a description which would appear to apply here, in a decidedly profane context. This statement came as, perhaps, the culmination of a trend in zooarchaeology which saw the rapid rise of ritual interpretations for ABG deposits during the late 1980's and 1990's (Morris 2008). Indeed, the acronym ABG was first created by J. D. Hill, as one of his categories of “special deposit” (Hill 1995). If it can be fully divorced from the umbrella term, then it is perhaps ironic that the most lasting contribution of a non-zooarchaeologist to the subdiscipline may eventually be yet another acronym to its lexicology. Just a year after introducing the term to the world, however, Hill (1996) further entangled its meaning, by stating that “special deposits are those which are articulated” when referring to animal bones.

The inference, of course, is that “special deposits” are ritual deposits, and yet there is a fundamental problem with the term ritual, which defies definition by archaeologists (Brück 1999). Presumably, this was part of the thinking when “special deposit” was first coined as an interpretive category fit for archaeology. However, if archaeologists cannot agree upon a definition for “ritual” then the chances of archaeologists being able to confirm criteria for identifying ritual activity are nil (Wilson 1992).

In fact, a better, but less emotive term for “special deposits” may have been ‘unusual deposits’. To call the deposits special is to invest

a value judgement in them (this is why zooarchaeologists have preferred the term “ABG” when applicable) when what we really mean is that they are different from the types of deposit that we usually find on archaeological sites. This difference can manifest itself either as a rare find, or simply by non-conformity with the usual finds demographic (Wait 1985). In essence, the deposits are special to us, but need not necessarily reflect anything special to the occupants of the site in question. “Special deposits” in fact, are simply representative of different selection processes (*ibid*), thus ABGs are special deposits merely because they have not been subject to the usual taphonomies (Wilson 1992). Perhaps, as zooarchaeologists, we should focus our research not on how to identify a ritual deposit but how to better understand the various taphonomies which might result in an ABG being present in the archaeological record.

Pits, in particular, can be created by a variety of anthropogenic activities, but also through animal activities (Baxter 2007; Dobney *et al.* 2000; Dunwell and Trout 1999) and environmental events (Embleton-Hamann 2004). Disused pits and ditches not only represent convenient sites for rubbish disposal, but can be backfilled rapidly when the site that they occupy is wanted for another purpose (Wilson 1992, p. 342). Bones buried in such features will tend to survive better than in wider, shallower ones (Wilson 1992, p. 342), a principle of crucial significance to interpretation of the feature.

Most archaeologists are familiar with rapid depositions as being possible ‘single events’, and so at first glance, it might be assumed that the example from Lumbe, above, would not be reported as a ritual activity, even if those from Amba Genet may be. It has been suggested, however, that only 28% of the “special deposit” ABGs in pits at the British Iron Age site of Danebury showed clear signs of “artificial basal filling” (Wilson 1992, p. 343). Furthermore, since it has already been mentioned above that pits can be rapidly backfilled when required for another purpose, this does not necessarily preclude those ABGs from Lumbe from entering the archaeological record as “special deposits”. In essence, ABGs have more time to accumulate at the base of an open pit or ditch before any episode of rapid backfilling – the basal deposit does not necessarily correlate with the rest of the fill as a single event.

Archaeological comparisons

Most reported occurrences of ritual deposits on archaeological sites in Britain are those dated to the prehistoric period (Morris 2008, p. 314), perhaps reflecting a residual “noble savage” projection amongst archaeologists, keen to thrust the mystic and ritual onto our distant past, whilst identifying that more recent as rational and profane. Recent interpretations, however, have begun to analyse ritual in more recent periods. Whilst acknowledging that the black and white ritual/profane dichotomy may be unhelpful, Fulford (2001) nevertheless suggested that “special deposits” were a regular occurrence at Roman Silchester, in his review of the period in Britain – a category in which he explicitly included ABGs.

More recently still, Hamerow has examined the theme in Early Medieval England. An explicit acknowledgement is made that “preservation conditions may be responsible for some special deposits” (Hamerow 2006, p. 2) but these reservations appear to become rapidly glossed over in the ensuing article. It is claimed that 43% of “special deposits” in Early Medieval England are cattle (Hamerow 2006, p. 8) and that pits and ditches are a good way to identify “special deposits” (Hamerow 2006, p. 9). Among these deposits, the exact stratigraphic position is not always recorded, but where it is, it is not used to distinguish the interpretation – including basal, near basal, and even higher deposits (Hamerow 2006, p. 13) furthermore, there is a lack of association between ABG deposits and buildings (Hamerow 2006, p. 29). All of these observations are interesting in light of the discussion above and are given added curiosity when one of the “special deposits” specifically discussed is that of “sections of articulated backbone, some ribs and the skull of an ox” in the lower ditch fill at Poundbury (Hamerow 2006, p. 21), a description which could have been written of [Figure 3.2](#), above. In the Early Medieval Period, just as in prehistory, records of catastrophes and epidemics, such as those recorded above (see Fieldwork) and which caused the ABG in [Figure 3.2](#), were not kept systematically. Indeed, it is probable that there is a positive correlation between interpretations of ABGs as ritual deposits and paucity of documentary records in any given period (Morris 2008, p. 314). By the Late Medieval Period, written records were kept far more frequently, and included references to catastrophes and epidemics.

Historical context

“And I looked, and behold a pale horse: and his name that sat on him was Death.” (Revelation 6.8)

We know that apocalyptic thought, revolving around the imagery of the Four Horsemen of The Apocalypse ([Figure 3.4](#)), was central to the Christian European worldview by the Late Medieval Period (Aberth 2001; Smoller 2001, p. 793). Two of the four, Famine and Pestilence, have already been introduced (see Fieldwork above); the other two are War and Death. The relationship between ritual and war has been commented on elsewhere in the zooarchaeological literature (Wilson 1996), but what has not been openly considered to date is the interrelatedness of each of the four horsemen. In particular, as mentioned above with reference to disease, famine frequently rides together with one of the other three (Aberth 2001, p. 12).

So it is that in 1316, there was reported to be a great famine and disease of cattle and livestock in Britain and Europe (Aberth 2001, p. 14). Between 1313–1317, sheep flocks were reduced by between 20–70% through disease, with similar figures quoted for cattle herds between 1319–1321 (Aberth 2001, p. 22); the exact figure varying from flock to flock and from herd to herd. Throughout this period, there are reports of cattle disease following famine and of people not eating the afflicted livestock (Aberth 2001, p. 22). In 1321, for example, John Fordun of Scotland reported that a hard winter “distressed men and killed nearly all animals” (Aberth 2001, p. 35), whilst accounts also mention many cattle dying of disease in 1296 (Aberth 2001, p. 35).

The peculiar confluence of war, famine and pestilence at this time is perhaps most popularly considered in isolation as either war or plague – the most infamous pestilence of the time (although murrains were very common) (Aberth 2001) and pertinent to discussions of the zooarchaeological record); the interrelatedness of the three, alluded to above, is rarely considered except by scholars of the subject. In particular, it is worth considering that wars, as well as droughts and floods, can cause famine. Furthermore, the popular association of this period with plague often serves to disguise the multiple visitations of the disease to Europe and Britain before and since. Although documentary sources for earlier periods are scarcer, those that do exist for the 7th century suggest that

outbreaks of plague already existed in Britain and Europe at that time (Maddicott 1997).



Figure 3.4: The Four Horsemen of the Apocalypse by Albrecht Dürer (1498).

Whether or not medieval plague was the same disease as bubonic

plague is a question of dispute amongst scholars of the subject (Cohn 2002; Fabbri 2008; Walløe 2008), but it is not a question which is pertinent to the present discussion. Rats are a vector for a number of different diseases (Davis 1986, p. 460) and previous attempts to identify plague in the archaeological record have focused upon the presence of *Rattus rattus* in zooarchaeological assemblages (Rackham 1979). Some debate has raged as to the veracity of the historical sources in Britain due to the rarity of finds of this nonindigenous species on sites dating to the early medieval period (Maddicott 1997; Armitage 1994, p. 234). Recent studies have shown, however, that the presence or absence of one does not automatically equate to the presence or absence of the other (Karlsson 1996; Walløe 2008, p. 71) and so other means of identifying occurrences of the disease must be sought where it is of interest to the scholar. Since animals are also susceptible to plague (Aberth 2001, p. 120; Krauss *et al.* 2003, p. 218) and other epidemics, they may represent one such alternative source. The better documented Late Medieval Period may be a suitable period in which to test any models and assumptions about non-ritual interpretations for ABGs in the archaeological record.

The idea that ABGs may represent diseased animals is not a new one (Groot 2009, p. 55; Morris 2008, p. 314; Wait 1985, p. 129), however, what is not often appreciated by non-specialists such as Wait (1985, p. 129) is that the diseases discussed here would tend to be present for so short a space of time in an animal that resulting pathologies would be highly unlikely (Waldron 2009).

Other alternatives

Similarly to the presence/absence of pathologies, other criteria that have been used in the past to corroborate ritual interpretations for ABGs include the absence of butchery marks (Morris 2008, p. 15), and the differing ratio of ABG species compared to disarticulated animal species on a site (Hill 1995, p. 56; Hill 1996; Wait 1985, p. 126). Since many ethnographic and historical records of ritual animal sacrifice include the consumption of the sacrificed animal (Lauwerier 2004, p. 67; Luff 1996, p. 2; Popkin *in press*; Wait 1985, p. 244), the first of these considerations is easily dismissed and, arguably, even makes unbutchered animals less likely to be ritual deposits rather than more. Although used less often as an indicator,

the presence of associated artefacts with an ABG as a sign can also be discounted as it cannot be proved not to be coincidence (Groot 2009, p. 55). As for the differing ratios of ABGs against other zooarchaeological deposits, this must be explained in terms of different taphonomies rather than as a caricature of an artificial ritual/profane dichotomy.

One such taphonomy may be the differing status of an animal in life, as opposed to in the act of their death, whilst it is sometimes claimed that pets are a feature of the modern Western world, and it is certainly true that the first documented pet's grave dates from 1750 in Britain (Thomas 2005, p. 94), such thinking is another artificial black and white situation. People's relationships with animals in the past were complex (Le Roy Ladurie 1980, pp. 296–303) and cats, dogs, horses and ravens have all been kept as particular companion animals in Europe. Elsewhere in the world, the list of animals kept purely for companionship reads far longer and it has been reported that the Amerindians, in particular, bury their dead pets near their house (Serpell 1989). A written tombstone and memorial for companion animals may, or may not, be a feature of the modern western world for companion animals, but this is a different question to that of differential disposal. Paradoxically, pet burials may be the best documented source of “ritual” animal deposits we possess (Toms 2006) and the variety of grave goods could well baffle archaeologists (Ucko 1969, p. 265); several ABGs in the archaeological record could well be pet burials and their identification in part depends upon prior assumptions as to which animals were kept as pets (Thomas 2005, p. 95).

Until now, ABG deposits have not been studied either ethnographically or experimentally but, in addition to the data presented above, it's worth considering that, until a change of the law in 2001, burial was a common form of carcass disposal for animals that died of natural causes in Britain. Indeed, it was the most common form of carcass disposal during the 1967 FMD (Foot-and-Mouth Disease) (*Aphthae epizooticae*) outbreak (Trevelyan, Tas, Varley and Hickman 2001, p. 1). Although FMD is not usually fatal to animals and their deaths in these instances were brought about by culling, it is also worth considering that during the 2001 FMD outbreak in the UK five mass burial sites were constructed to hold 10,000–60,000 animals each. It is difficult to imagine what future archaeologists would make of such a find without documentary

sources to aid them.

An integrated approach

Until recently, ritual has often been a taphonomic afterthought in archaeology (Wilson 1996, p. 85) and non-ritual interpretations of ABG deposits have often relied as much upon Occam's Razor (that the explanation with fewest assumptions is often the correct one) as any analogue (e.g. Maltby 1987). Archaeology can, to mix metaphors, often appear to be a tightrope walk upon Occam's Razor, but to attempt interpretation without the aid of analogy is reckless. To ignore the Razor, and offer an exciting and dramatic interpretation based on little more than conjecture, meanwhile, is more than reckless – it is irresponsible.

Further studies must be undertaken into the possible taphonomies of ABG deposits – including ritual taphonomies – in order to develop rigorous analogues. Until these are completed, Occam's Razor must be a guiding principle in interpretations based on a full consideration of integrated supporting evidence. ABGs should be considered in light of their relationship with other deposits within a feature (Brück 1999, p. 331) and with the relation of those features to others on the same site. A good example of this approach is to be found in Randall (2010). Where possible, historical sources should also be used to suggest interpretations and taphonomies; an excellent example of this approach to a ritual ABG deposit can be found in Popkin (in press).

Conclusion

Ethnographic fieldwork in Ethiopia has highlighted ways in which ABGs may enter the archaeological record. It has been suggested on this evidence that ABGs in the archaeological record may reflect tragedies – big, such as natural or cultural disasters, or small, such as the death of a loved companion animal. To interpret ABG deposits requires a full consideration of all available information – faunal, archaeological and (where possible) historical with the aid of ethnographic, experimental and historical analogues. Finally, it has been suggested that the analogues presented here should be seen only as the first, that there should be more work carried out to establish the taphonomies which can produce ABG deposits in the archaeological record – taphonomies which may include both the

ritual and the profane – and what observable differences to the individual deposit or groups of deposit any different taphonomies may produce.

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SECTION 2

CENTRAL AND EASTERN EUROPE

Nourishment for the Soul – Nourishment for the Body: Animal Remains in Early Medieval Pomeranian Cemeteries

Andrzej Kuczkowski and Kamil Kajkowski

Introduction

In the first part of the title we find a somewhat deceitful expression, because we do not know if Slavs had any knowledge of the idea of the soul before the introduction of Christianity. It is only known that they had to have some imagined conception of the world beyond, and acknowledged the existence of dead there. Late medieval sources clearly refer to souls, which in traditional folk beliefs were periodically returning to feed and warm themselves by fires made by the living. This kind of conception can be merged with Slavic eschatology. There is multiple evidence to confirm that belief in some form of spirit or soul was spreading amongst the people, who in the early medieval period, bordered directly with Pomerania. In Scandinavia the spirit of the dead, depending on its earthly behavior would go to Valhalla or chthonic, grim Hel. Another element of lore is taken from the traveller called Ghillbert de Lannoy (who was in Livonia from 1413 to 1414) and from him we know that amongst the Balts, based on the smoke escaping from the funeral pyre, it was believed the soul was either going straight to the gods or vanishing into nothingness (Kursite 2005, p. 767). On the other hand the idea of the soul itself could have been due to the influence of the Christian religious system. In this case we can say

that the Slavs believed in the possibility of returning from the dead on earth in *some kind of form*, which would have typical existential human needs such as feeling hunger and cold. The possibility of returning the dead from the world beyond was supposed to be connected with demonological beliefs concerning vampires and *lamias* (Barber 1988, p. 181ff). Archaeologists can only perceive one element of Slavic funeral ceremonial – namely the grave itself, and cannot accurately reconstruct the activities which took place from the moment of the death to putting the body into the grave. Because of this fact it is necessary to make a close analysis of the grave's construction as well as the artefacts recovered from it.

Slavic beliefs

The first sources concerning traditional Slavic beliefs relating to the soul are late medieval. They were imagined as a resemblance of living people. The souls could walk, eat, drink, leave footsteps and fingerprints, breastfeed orphaned babies and copulate with the living. Although they were invisible to the living, they took some part of their space. That is why we should be careful not to push, crush or pour any swill on them (Moszyński 1967, p. 586). Such soul perception, which is contrary to official Christian eschatology in some respect, must have been the result of the persistence of traditional beliefs.

The world of Slavic beliefs represents a great mystery for the modern explorer. Dabbling in the traditional religion of this world one encounters an absence of material from pre-Christian Slavic authors. Every noted piece of lore is known from the works of Christian or Muslim authors who described many religious behaviors which were not fully understood by them, or were purposely put in a negative light. That is why archaeological discoveries relating to this and earlier periods are lacking well established comparative written material and they are mainly interpreted on the basis of pure intuition. It seems that in case of Slavic eschatology such reconstruction should be more successful. Of course the identification of graves or entire cemeteries is much easier than religious cult centres, however here problems also appear. While registering another set of cemeteries we encounter a dilemma – how to interpret artefacts which were put together with the dead into the grave? Some of the artefacts registered within a

grave's area form an element of the deceased's dress, although part had absolutely nothing to do with the robes and were purposely lodged together with the dead. Without discussing this phenomenon further we must ask one question: What was the intention of this act? Generally it is assumed that the dead would be supplied with artefacts which in the world beyond would enable them to continue their earthly existence (Biegeleisen 1929, p. 181).

Pomeranian funeral rites

At this point it is useful to introduce the evolution of Pomeranian funeral ceremonies. Recently it was thought that Pomerania, together with Northern Greater Poland (Wielkopolska) was situated within a region where non-interment was practiced, where the treatment of the dead would not leave any visible traces recoverable by archaeological methods. However, at a series of excavated sites, features similar to habitable half-dugout dwellings have been uncovered and recorded. In the literature these were called *Alt Käbelich – Neukirchen*, i.e. a type of cremation grave (with children's inhumation graves) pit which can be dated from at least the 8th century (Łosiński 1998). Sites with this type of burial are concentrated in the north-western part of the Western Slavic territories (Łosiński 1998, p. 476, figure 2). The appearance of the inhumation rite in Pomerania is dated to the 9th century. It coincides with the beginnings of Scandinavian expansion into these lands and the establishment of artisan's and merchant's settlements. The oldest examples of this type of grave in Pomerania are from Świelubie (which will be mentioned later) and Kępsk near Bobolice. Most likely by the end of the 10th century there also appeared inhumation and cremation mound burials – with a particular concentration in the Szczecinek region. Furthermore, in the second half of the 10th century we find the earliest evidence for flat grave inhumations.

However, most of this type of site is dated to the 11th century. Together with Christianisation there is a significant change in the manner of burial. Gradually, the burial tradition aligned with Christian eschatology becomes standardised, whilst the idea of depositing objects into graves declines. Although accepted in the older scholarly literature, the suggestion of different trends within church and non-church graveyards does not reflect medieval

realities; such specific differentiation is not fully implemented (Rębkowski 2007, pp. 89–161).

In St. Otto's life written by Ebbo we find a very interesting section which, at first, does not seem to be connected with this topic. There is a passage referring to one pagan, Pomeranian custom: "for they should [not] place sticks on their graves" (Ebbonis..., II, 12). This describes almost identically the formal customs of the pagan Czeremis. Here it was customary to place a few branches of birch into fresh tombs, on which dead souls were to rest after the journey taken from the seven days after their death, the purpose of which was to bid farewell to their intimates (Moszyński 1967, p. 556). This custom is bound indissolubly with a larger religious complex. According to traditional eschatology, after death, the soul would take the form of an animal, usually a bird. Belief in bird-shaped souls is quite common amongst all Slavs (Moszyński 1967, p. 552). Of course we will never find out if the known early medieval rite, which took place on the Pomeranian graves expressed similar meanings to the Czeremis one.

Animal deposits

Having established the context, we can consider the deposition of animals in cemeteries. Faunal remains recovered from archaeological sites can tell us a lot about the structure of provisioning and diet of ancient populations. However in some cases these sources also provide windows into contemporary spirituality. Such possibilities are provided by bones recovered at first within graveyard limits. It seems the old Slavs understood death as a passage from life to the world beyond. Unfortunately it was not such a sharply defined boundary and the dead themselves, long after their death, were perceived to belong more to the world of the living than the world beyond, as expressed in expanded rites, preceding the entombment. A particularly characteristic element of a Slavic funeral was a feast with the presence of the dead (*strawa, stypa*) (Bylina 1992, p. 9). Late medieval preaching texts confirm the long duration of beliefs concerning the cyclical return of souls to earth, especially during spring's All Souls' Day. At that time spirits were supposed to demand that the living provide them with food, as well as fire to keep them warm (Bylina 1992, p. 128; 1995). In the scholarly literature, fragments of nourishment found in burials are commonly interpreted as food given to the dead in the

world beyond, where they were supposed to eat it. On the other hand animal bones, discovered outside the grave, but within the limits of the interment area are commonly interpreted as traces of the funeral meal. Confidence about the commonality of such practices is widely accepted, especially in the older literature (Biegeleisen 1929, p. 259ff).

Within Pomeranian territory over one hundred early medieval cremation and inhumation graveyards are known, dating to this period (Figure 4.6, 4.7). Most of them come from the western part of the region, where 108 of this type of site had been recorded by the start of the 1990s (Łosiński 1992, pp. 48–49). However most of them are accidental finds from the 19th and the beginning of the 20th century. They consist of short archived notices or news items published in the local press by amateur archaeologists, and of course we do not know very much about these. Descriptions of objects are basically limited to their location (often very approximated) and mention artefacts recorded in a given place. In some cases where animal remains have been uncovered in the context of human graves, the issue if in fact they are really animal remains becomes very problematic. For example in Rąbin (Białogard district), two inhumations were discovered during excavations. One meter to the east of one of the skulls other bones were found (Beck 1944, p. 16). It is not known if these represented other, destroyed human inhumations. In Kręgi (Szczecinek district) in the grave mound fill number 1, alongside fragments of ceramics there were also cremated bones, while the burial itself was an inhumation (Beck 1944, p. 16). Also in case of descriptions of discovered animal remains in graves we have very limited information. In most cases it is a lack of a specific qualification. We do not have any data concerning the number or weight of bones registered in the mortuary complex. But it seems that information concerning these could not be without meaning. In some instances there are a few fragments and in others there are dozens of bones. In case of cremation and inhumation graves, the spatial relationships between the animal and human remains is not given, which in itself could present significant interpretative possibilities. In the case of cremation graves it is often difficult to say if recovered bone fragments represent only food waste or whether they are less characteristic elements of bone products. However the data which we have for this type of burial are mainly from the older

literature – from the period when archeozoology was not a very advanced branch of knowledge, so we can assume that the archaeologists had studied large bone fragments, which couldn't be taken for remains of any products. Unfortunately because of the total lack of publications of full analyses of animal bone material from Pomeranian graveyards, we are forced to concentrate on the spatial analysis of material within the limits of relevant excavated sites. During our review of the available literature it became clear that animal remains occurred in three cremation cemeteries (Chmielno, Skrzyszewo, Wolin-Wzgórze Wisielców (Hanged Hill) excavation site No. 12), four inhumation graveyards (Cewlino, Góra Chełmska, Pyrzyce, Letnin) and on three sites where both types of burials occurred (Cedynia, 12 and 12 a, Wolin-Wzgórze "Młynówka", Świelubie) (Figure 4.8).

Cremations

The dead body which was completely incinerated would undergo a triple metamorphosis: technological, social and ritual (Oestigaard 2000, p. 42). Two of these concerned animal remains: technological and ritual. Based on the analysis of so-called 'slave' burials, T. Oestigaard assumed that slave cremation graves can be interpreted as an aspect of the belief in divine cannibalism. The burned body was supposed to be "food" for supernatural beings (Oestigaard 200, p. 43 nn.). By removing these assignations on animal material we can put forward a hypothesis, that burned parts of the carcass could be destined for divine forces. A particularly common belief amongst traditional cultures was a conception that supernatural forces do not feast directly on food given in sacrifice, but on steam and smoke created during the burning (Moszyński 1967, p. 248). Animals deposited in grave pits and not burned were probably destined for the use of a dead person.

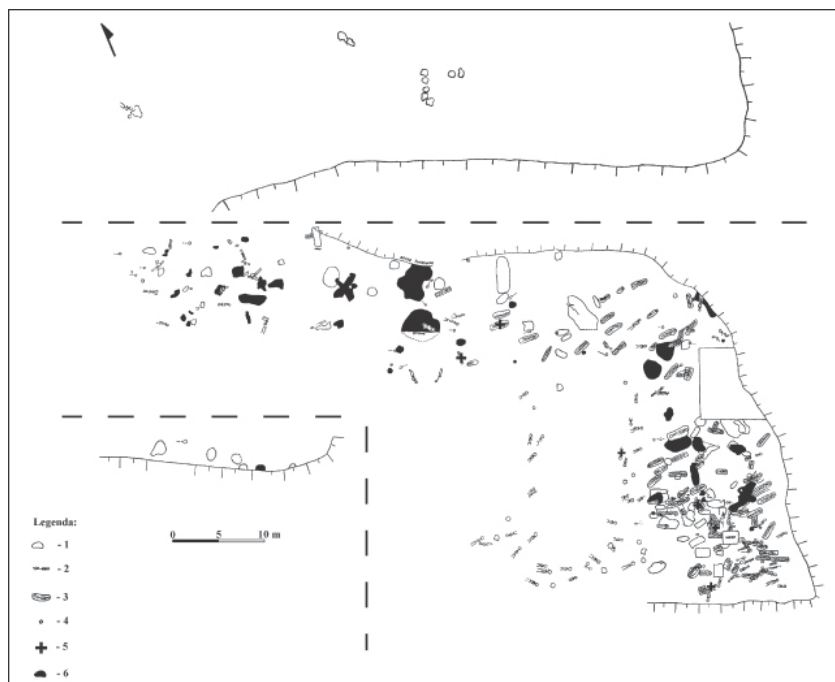


Figure 4.1: Wolin – Wzgórze “Młynówka”. Spatial schedule of objects with animal remains (after Wojtasik 1968, 1970, drawn up by A. K.).

In around 90 cremation mound graveyards, animal bones were registered at only 11 sites, whereas on 25 flat graveyards, they occur in only three cases (Zoll-Adamikowa 1975, p. 322ff) These figures represent the state of research into this material from around 30 years ago, and it is still not possible to complement this with a catalogue of excavated sites. However, it seems that the trends observed within the available material are representative for this period, because a complete survey of early medieval Pomeranian graveyards may have brought a similar result. From these results it appears that animal remains were discovered in only 10% of surveyed cremation cemeteries, both flat as well as grave-mound sites. Moreover on almost every site animal bones occurred in one or two burials. Only in the case of Pomeranian Świelubie and Wolin are there significantly more examples of these deposits (see below). In only 10% of all these burials are we dealing with the deposition of larger parts of animal carcasses. Furthermore, an absence of bone fragments does not mean a lack of any form of food in the burials – soft animal elements or plants may not have

preserved (also see below).

The most striking situation has been recorded at the bi-ritual cemetery on Wzgórze “Młynówka” in Wolin, where animal remains were found in 32 cremation pit graves (out of 80 recorded examples), three cinerary burials (out of 10) and 9 objects qualified as pits (within a group of 21), which probably still mark destroyed cremation graves, and also in five inhumation burials (Wojtasik 1968, 1970). Such large numbers of burials with animal remains do not occur in any other graveyard (Figure 4.1). However, a high number of animal remains in graves can also be found at Świelubie, where they are registered in five grave-mounds.

Another cremation graveyard on Wolin’s territory is the grave-mound site (number 9) on Wzgórze Wisielców, where around 120 mounds were identified, explored already in the 19th and the first half of the 20th century. The cemetery is dated from the turn of the 8/9th–mid-10th century. Animal remains were discovered here in two grave-mounds and in one place beyond the direct burial area. In mound 49 there was an unburned long bone and a rib from a pig, recorded in the embankment (Zoll-Adamikowa 1975, pp. 264–265). Pig bones also occurred in grave-mound number 76, in which were buried five specimens. Directly on top of one of the grave’s scorched layer there were three teeth of a pig and a meter further there was a jaw of a hog with a fang (Zoll-Adamikowa 1975, p. 267). Besides the fragments recovered from the graves, animal remains were also noted in one place on the southern slope of Wzgórze Wisielców. Here a scorched layer was discovered (1.25 × 1.70m with a thickness of about 10cm). Alongside the animal bones there were also a few fragments of ceramics and burned human bones (Zoll-Adamikowa 1975, p. 269). Amongst three discovered cremation pit graves on the north eastern slope of the hill (marked as excavation site number 12) in one case, just under the pit’s top layer two animal jaws (probably pig jaws) were discovered (Zoll-Adamikowa 1975, p. 270).

An interesting situation was recorded at the gravemound cemetery in Świelubie near Kołobrzeg, where in a clear area there are around 100 mounds, which occur in two groups: northern and southern clusters. During the archaeological investigations there 34 tombs were checked, mainly from the numerous southern group. These objects had an interesting stratigraphy. The grave-mound base was covered with a thin layer of sand and ash, scorched spots,

many fragments of charcoal and seeds of trees and bushes (Łosiński 2000, p. 76). In some cases there were also additionally observed animal remains, which occurred in five embankments (grave-mounds 9, 24, 29, 30, 33). In three cases animal bones were outside the graves (grave-mounds 9, 24, 29), in two on them the remains were burned through and found in a pit graves (grave-mounds 30, 33) (Zoll-Adamikowa 1975, p. 226ff). In five mounds explored in the 60s and 70s by W. Łosiński's team, plant remains were also recovered (nuts of horn beam and seeds of broad bean) – only in one case did they co-exist together with the animal bone material (grave-mound number 9) (Zoll-Adamikowa 1975, p. 230).

It is amazingly rare to find animal remains in Slavic cremation graves. In the early medieval period the idea of providing the dead with animals wasn't actually so rare in Northern Europe. On Anglo-Saxon sites, where animal remains have been recovered, they occurred in 18–43 % of the cremation burials in each graveyard. Amongst the analysed material, the biggest number of remains belonged to sheep/goat (17–32 %) and horse (9–23%), followed by pigs (5–10%) and cattle (3–14%) (Bond 1996, p. 78 chart 1). In Scandinavia, animal remains occurred in high status burials, for example the grave of the warrior from Rickeby, dated to the 7th century, in which, next to the dead there were buried a horse, four dogs, a few birds of prey and parts of pigs, sheep and cows (Sjövård, Vretemark, Gustavson 1983), or boat graves, where dogs were buried: at Valsgårde out of 60 cremation graves, 31 of them were identified as belonging to females and in 28 of these were found dog bones (Öhman 1983). Animal remains are also quite common in low-status cremation burials. Because of very few osteological analyses conducted on material from this type of sites, interpretation can only be based on some select examples, although it seems that this idea was widespread. For example at the large (about 700 burials) graveyard in Danish Lindholmhøj, dog bones were found in most of the graves, although they were recovered more often in female burials. At the graveyard in Tuna (Sweden) dog bones were found in around 50% of the graves. In the first one hundred cremation graves from Birka, which were the subject of osteological analysis still in the 19th century, animal bones occurred in every case and dog remains were found in 25 graves (Gräslund 200, p. 169). In Western Europe, the presence of animal bones is taken as one of the main identifiers of pagan burial

(Gräslund 2004, p. 170).

The presence of such a number of animal remains in Scandinavian burials can be indirectly explained by the fact that in local beliefs they were very important. The world of the dead was inhabited only by a pair of infernal dogs: Gifr and Geri and also Garm. They were defending access to the land of beyond called Hel (Ślupecki 2006, p. 49). Snorri Sturluson while describing Baldr's funeral writes "Also Baldr's horse was taken to the pyre together with all his row" (Ślupecki 2006, p. 208). L. P. Ślupecki suggested that this part of Baldr's myth determined the first burial in Scandinavian religion, which was promoted as a pattern for the organisation of other funerals (astonishingly similar is the funeral ceremony of the Wareg nobleman at the Wołga river, described by the Arabian traveller Ibn Fadlan) (Ślupecki 2006, p. 210). In the Scandinavian otherworld there is one more animal. It is Saehrimnir, the wild boar. In Snorri Sturluson's works we find his description: he asked Gangleri: You have said that all the men who died in a battle from the world's beginning are now with Odin in Valhalla. What food can he give to them? I think that, there must be a great crowd of people there. Then Har said to him: It is truth, what you say, there is a great crowd there and it will grow bigger, but it still too small, when the Wolf comes. But the crowd in Valhalla will never be that big, for not to suffer from the lack of meat, this meat from the wild boar Saehrimnir it is boiled every day and in the evening again he is in good health(...) Andhrimnir is the cook and Eldhrimnir the cauldron" (quoted by Ślupecki 2006, p. 108).

In the light of this it is very tempting to put forward a hypothesis that in the case of the graveyard on Wzgórze Młynówka we have examples of burials of representatives of foreign and local ethnic groups. In case of early medieval Wolin the presence of non-Slavic merchants is clearly indicated by written sources. Adam of Bremen (II, 22), writing about the citizens of this merchant centre mentioned that: It is inhabited by Slavs together with other nations, Greek and barbarians; also Saxon newcomers will receive a right to live there (quoted by Labuda 2003, p. 215). There is also a bigger possibility of identifying foreign-ethnical components of a given society, based on different burial ceremonies. Trade was not simply about commodities; naturally together with merchant contacts there was also an exchange of information concerning religious systems. However the lack of analogous sites from the territory of Polish

lands proves that this custom wasn't widely practiced by Western Slavic societies.

Because of that we suggest a question – Who was supposed to deposit meat remains together with bones on the cremation pyre or in a grave pit? Al-Masudi in his works *Golden Meadows* writes: [People from] the tribe, which we mentioned, called S[a]rbin burn themselves in fire, when their king or chief dies and they burn [also] his [or: their] saddlehorses (Lewicki 1952–1953, p. 151). T. Lewicki claims this as a description of habits, established in North-West Slavic lands (Lewicki 1952–1953, p. 151). Based on Arabian sources concerning the Western Slavs we can suggest a careful hypothesis, that animal remains were placed into the graves of the distinguished dead.

Inhumations

Animal bones are rarely recovered from inhumation. Assuming that inhumation appeared on Polish lands in considerable extent thanks to the Christianity, no one should be surprised by this fact. Ritual feasting, focused on the graveyard, was quite an impressive event. It is likely that priests first started to eliminate the rites which explicitly stood against Christian eschatology, although the idea of feeding (or starving) the dead in the world beyond was not new to Christian beliefs (Sokolski 1998, p. 49). Only in case of the graveyard in Letnin, where in at the beginning on the 20th century seven inhumation burials were discovered in a local gravel pit with a large number of dogs, cows, pigs and deer (Beck 1944, p. 18). W. Łęga writes that on this excavation site pit cremation burials were also recorded (Łęga 1930, p. 169). Unfortunately the circumstances of the discovery and the brief description of the excavation site do not allow any further conclusions.

The most interesting inhumation burial with animal remains is grave 115 (252) from Wzgórze Młynówka in Wolin, in which was probably buried a woman, who died young ([Figure 4.2](#)). One of the artefacts in the grave was a bronze bowl, under which on pieces of wood (probably the remains of a plate) were found the seeds of broad bean, hazel nuts and egg shells (Wojtasik 1968, p. 67–68). In Slavic traditions egg shell was known as a cosmological symbol – from its shell the world was supposed to be born (Toporow 1977). Hence it was a carrier of meaning, connected mainly with birth and life cycle. However egg shells in graves are a very rare discovery, so

we don't know what made such a privilege to this dead woman.

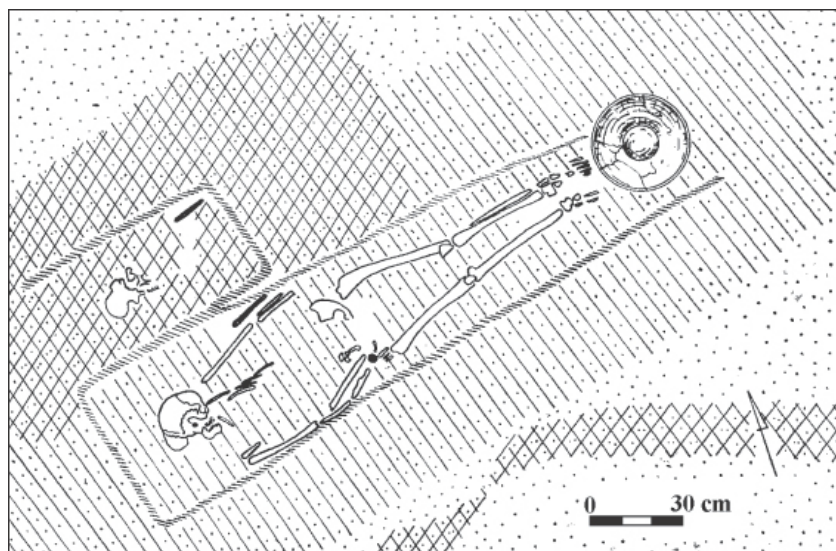


Figure 4.2: Wolin – Wzgórze “Młynówka”. Grave 115 (252) (after Wojtasik 1968, fig. 71, p. 6).

In inhumation cemeteries we can find a different category of bone discoveries which warrant closer examination – namely, perforated teeth (especially fangs; in cremation burials there are also examples of animal teeth, however perforated specimens were not found). Although these are not the remains of food consumption, their presence is directly connected with the place of animals in the pre-Christian religious system of the Slavs. On the basis of ethnographical material they can be interpreted as amulets (Moszyński 1967, p. 309). In Pomerania, there are only three examples known from burials – one in Cewlin ([Figure 4.3](#)), the second in Cedynia ([Figure 4.4](#)) and third in Chmielno. All the information we have is that in the first two cases it was a female grave and in both cases animal fangs were strung on bronze wires together with glass beads. So alongside to the magical function we should also consider an ornamental one. We are probably dealing with the same relic in Barwino (near Słupsk), where three flat inhumation graves were found. In grave number 3 there was a bored beaver's tooth, incased in silver (Beck 1944, p. 2).



Figure 4.3: Cewlino. Grave 10 – Bronze wire with the threaded glass bead and the wild boar's tusk (after Łosiński 1958, fig. 11, p. 267).

Animal bones can be connected with “vampire” graves in just one case. At the graveyard in Cedynia (site 2) a grave (112–112a) contained an intentionally dismembered human skeleton. Near the skull there were three large animal bones, which separate it from the other pieces of human skeletal material lying in a scorched layer (Porzeziński 2006, pp. 68–69, 152). Such specific treatment of human remains indicates a recognition of the body as potentially dangerous after death; dismembering the body could mean its final destruction. However the discovery from Pyrzyce has an unclear character, where next to the skull, animal bones and ceramics pieces were supposed to be (Łęga 1930, p. 414). Maybe we are dealing with a partial burial here or a destroyed inhumation.

Written and archaeological data sources (Avdusin, Puškina 1988) concerning burials with animal remains are mainly taken from the Eastern Slavs territory. Arabian sources, in which there is information about Slavic funeral customs, prove that in the 9th century in Russia there was a custom of burying the dead who belonged to the highest social spheres without burning. Alongside other equipment they were supposed to have a large number of food offerings and drinks (Lewicki 1952–1953, p. 130). There is some evidence that the habit of providing animals to the dead could last quite a long time. Near Nowogródek (today Western Belarus), there was found a lapidary stone with a poem on it, saying:



Figure 4.4: Cedynia (site 2). Grave 699. Necklace of glass beads with two animal teeth (after MalinowskaŁazarczyk, 1982a, fig. 28:1, p. 160).

“Tat Iwan Siemiaszko leżył
 U nohach czarny sobaka tużył
 U hołowach flaszką horyłki stoit
 U rukach ostry miecz derżył
 Ho! Ho! Ho!
 Szczoż komu do toho?”

(“Here lies Iwan Siemaszko / at his feet a black dog pines/at his head a flask of vodka/in his hand he wields a sharp sword”, quoted by Biegeleisen 1929, pp. 181–182)

In the tomb under the stone in fact there should have been found human skeletal fragments, a dog, a vessel with alcohol and the iron head of a sword (Gołębiewski 1830, p. 251–252). The laconic description of this discovery and the lack of data do not allow any further conclusions to be reached.

It is also important to consider animal inhumations. On Polish lands inhabited by Slavic societies there is not even one example of an animal burial within a cemetery. There are only known objects interpreted as intentional graves in settlements and villages. We have a few examples of horses, dogs and cow burials on these types of site. In Europe in general, from the 5th to 11th century there are 110 graveyards where in total 271 dog graves have been recorded (Gräslund 2004, p. 169). In Poland, a complete horse skeleton was

discovered within the village area from the second half of the 10th to the first half of the 11th century in Dziekanowice (Great Poland) (Wrzesińska, Wrzesiński 1998). In 1897 a human burial and a horse skeleton were accidentally found on St. John's street in Kraków (Cracov, Little Poland) (Zoll-Adamikowa 1966, p. 62–64). In this second case we don't have a precise description of the discovery, which makes it difficult to conclude about the mutual relation of the human and horse graves. Also from Little Poland (Małopolska) comes an extraordinary discovery. In a graveyard dated to the early medieval period in Stradów, there was discovered a child burial combined with a pit containing a dozen dog skeletons. Due to the incomplete publication of this site we do not know if the object had some sort of connection with the human grave (Zoll-Adamikowa 1966, pp. 98–99). Dog bones deposited in early medieval interment areas are also known from Góra Chełmska (near Koszalin), where in the hearth there was found a ceramic vessel filled with pieces of dog bone additionally bearing the marks of intentional lamination (Janocha 1966, p. 461–462). It appears this object was to enter into the composition of a wider sacred complex of an expanded symbolic system connected with the partition of space (Kuczkowski in press). Beside this object at the site there was a relic of a burned house, which in outline had burned bones, a wild boar's fang, a few remains of horn, fish bones and scales (Janocha 1974, p. 99). In one of the graves (366) there were also the remains of deer antler (Janocha 1974, p. 51). Unfortunately due to the lack of grave goods we cannot determine a precise chronology.

The only known burial of a complete dog skeleton was found in a settlement in Kałdus near Chełmno. This object was additionally equipped with a large fragment of ceramic vessel (Figure 4.5). The question is – how to treat a purposely deposited complete animal, which was put into the ground not within limits of the cemetery area, but as in other cases in one part of a shared, domestic area such as a village or stronghold? Are we dealing here with, strictly speaking, burial or with other magic-religious functions, or is it equally probable this was done with pure utilitarian intention? This matter each times requires a precise examination of the context of the discovery.

In Pomerania there are known intentional animal burials. Not far from the Wzgórze Zamkowe (Castle Hill) near Żarnowiec, on lands inhabited by the indigenous Slavic population referred to as

Cassubians, there was a graveyard of dead horses. It existed until World War II. The only record found on this subject is the type of grave-mound in this area (or next to this) graveyard and information concerning the burial of suicides, what proves that this place has connections with specifically spatial and demonological senses. However, the briefness of object's description does not allow any further conclusions especially concerning its chronology (Dominik 1986, pp. 37–39). This information was given by a person, who was born and brought up in this area, which makes it reliable. It shows that this custom isn't connected directly with the religious system, but with the respect bestowed on this important and precious animal on every farm.

In 1998 at the early medieval site in Dąbrowa Górnicza – Łosień (Śląsk) (Silesia), a partly preserved cow burial was discovered. The pit measured 155–160 × 60cm, covered with cobblestones and orientated at its longest axis east–west. In the object's fill early medieval material was registered: leaden decoration and ceramics and also at least one piece of human bone (a tooth). C14 dating of the cow skeleton did not confirm this chronology, although based on artefacts the object was dated to the early medieval period. Further excavations revealed that in this place there was a centre of metal production (Roś, Rozmus 2001, Bodnar 2004, p. 26).

From the records concerning Slavic religion we do not find any information concerning dogs. The only existing record is connected with magicalsymbolical actions and not with the cult itself. In 993 the Hungarians invaded Thuringia. Their way to German lands lead through Czech territories and the lands of the Głomacze tribe. The tribe did not allow the Nomads' contingent to pass. There were supposed to throw a fat dog in front of the Hungarians, which the Chronicler found offensive (Widunkindi..., I, 38). It seems that we are dealing here with some sort of ritual, consisting of blocking somebody's way by throwing him an unclean animal. Crossing such a magical "barrier" was supposed to bring failure to the Hungarians. Still the Nomads went on to Germany. On the other hand written sources mention prophetic rites made with participation of the horse a number of times (Rajewski 1975).



Figure 4.5: Kaldus (site 3). Early medieval dog's grave (after Chelmino 2006, phot. 10, p. 37)

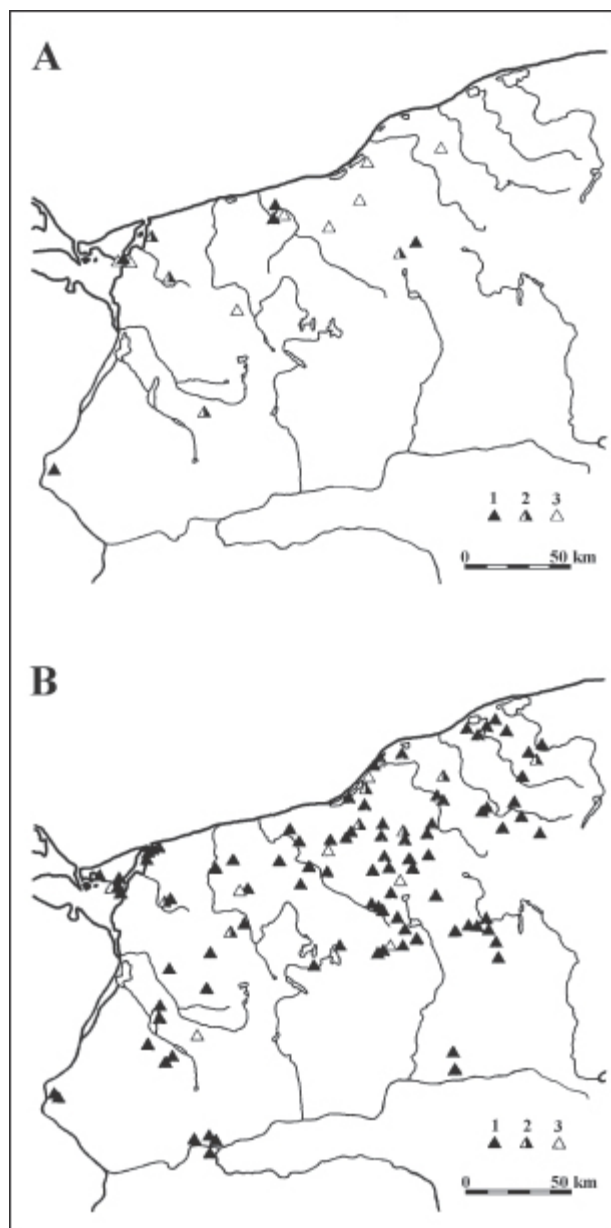


Figure 4.6: Chronological delineation of Pomeranian cemeteries. A – cemeteries dated before 950/1000; B – cemeteries dated after 950/1000; 1 – certain dating; 2 – probable dating; 3 – alleged dating (after Łosiński 1992, fig. 5, p. 34).

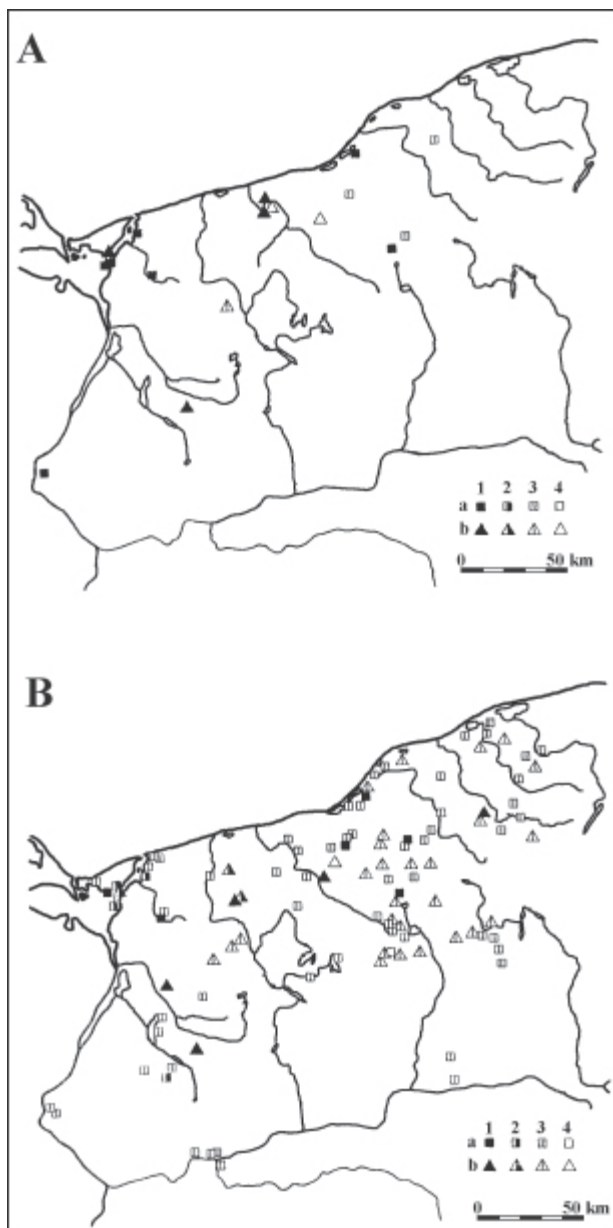


Figure 4.7: The diversity of funeral rites within cemeteries. A – before 950/1000; B – after 950/1000. Types of cemeteries: a – flat graveyards; b – burial mounds. Types of graves: 1 – cremation graves, sometimes with single inhumation burials; 2 – bi-ritual cemeteries; 3 – inhumation graves, sometimes with traces of cremation; 4 – no data concerning the funeral rite

(after Łosiński 1992, fig. 6, p. 35).

A different situation is known from the lands formerly inhabited by the Prussians (North Eastern Poland). At the graveyard in Nowinka near Tolkmicko, dated from the 5/6th–8th century an interesting set of burials with horses was discovered. There were two ways of burying these animals together with the dead, which were practiced at the site. Animals were burned on a pyre together with the dead, or their remains were put into a separate pit next to the human grave, or a living horse was made to enter into a very narrow and deep pit where he could only stand motionless (also Mindaugas this volume). The burned remains of the dead were put in the cinerary urn and placed on the animal's back. After disposing of all the equipment into the grave, it was filled up with earth (Okulicz-Kozaryn 1983, p. 33; Jagodziński 1997). There are also other graveyard horse inhumations known from Prussian lands (Jagodziński 1997 and Bertasius this volume).

Animals and funerary feasts

Animal remains in the archaeological contexts of early medieval cemeteries are very rare in Slavic territories, whereas based on written and ethnographical sources we know that rites connected with meals were quite common. An Arabian author Ibn Rosteh wrote: A year after death they take twenty pitchers of honey, [sometimes] less [sometimes] more, they go to this hill [it means on the tomb]. The family of the dead gatherers there, they drink and eat, and then they go away (Lewicki 1952–1953, p. 125).

Devotion to the dead was expressed mainly in feasts to their memory. Ancestral souls were invited and participated. Such feasts were prepared cyclically (typically 40 days after death) or on the spot, for example when somebody dreamed about the dead person (Moszyński 1967, p. 597). A. Van Gennep also remarked that such feasting was not only the indication of the cult of the dead, but also – if not predominantly – a rite with its main purpose to keep a social bond and solidarity with the family of the deceased (Nola 2006, p. 172). One of the oldest sources concerning Pomeranian customs connected with the funeral feast is Thomas Kantzow's Chronicle. On the 30th, 60th and 100th day after somebody's death, funeral meals were to take place on the graves. After a plentiful meal, the remains were placed under the stones of the graves. It

was believed that the dead would eat them (Haas 1927, p. 3). The need to make the funeral meal is one of the pillars of traditional homage to the dead. In the beginning of the 20th century in Southern Pomerania, ethnographers mentioned trials concerned with combating this rite (Asmus 1900; Adler 1940, p. 75).

At this point we should consider the minimal number of animal remains registered in early medieval Pomeranian graveyards. In many cases conclusions concerning the possibilities of holding grave feasts are impossible to draw, because of the very limited publications which do not include stratigraphic information of filled-in grave pits, and reduce the whole structure to the objects existing within them (this mainly concerns older discoveries) alongside anthropological descriptions of human remains. The cognitive value of a full publication on this subject is demonstrated by the inhumation graveyard in Komorowo (Greater Poland) (excavation site number 12). By grave number 2 there was a small, oval obscured in the ground, in which modern ceramics and an animal bone were recorded (Malinowski, Malinowski, Lorkiewicz 1994, p. 7). It is not out of the question that we are dealing with the traces of much later practices connected with the cult of the dead. The continued use of sacred places, amongst them graveyards, is a widespread practice confirmed by archaeology.

It is commonly presumed that single ceramic fragments in pit graves are an intentional deposit of traces of a feast by the grave. Ceramics within the limits of an interment area do not only appear by burials. A very common situation is where many fragments of vessels have been found overlying in the backfill of a grave pit and in the space between graves. These ceramics could get into these places in a few ways. Ethnographical research showed that in many cases these ceramics could appear as secondary deposits, especially when the remains are tiny, although we cannot rule out that the fractions of vessels recorded within limits of the burial area constitute traces of some sort of religious rites (Dzik 2003). They can also reflect other features of the religious complex – apotropaic actions. For there is recorded, especially amongst the Balkan and Western Slavs, the custom of breaking the vessel after the death of a family member. This was supposed to prevent evil (Moszyński 1967, p. 290). There were also other ways food, together with the fragments of vessels, could appear within graveyards. In Lithuania, during the funeral meal, food was brought to the graves in shards of

purposely broken vessels (Gołębiowski 1830, p. 53).



Figure 4.8: Pomerania – map showing places mentioned in the text (drawn up by A. K.).

We do not know what percentage of animal carcasses constitute the total mass of food accumulated in some way within the graveyard. Earlier quoted written sources do not clearly refer to any kind of food within funeral meals. It seems that there was no ritual regulation in this matter. For deposits of non-meat food we can look to the evidence of vessels discovered in some early medieval graves. Here we are mainly dealing with earthenware, which probably were not put as a separate element of the grave good assemblage but were containers of liquids. We also know that other types of ceramic vessels were found on early medieval cemetery sites. Besides them there are also wooden vessels and bronze bowls. These categories of grave goods represent unique discoveries and do not appear to have functioned as containers, but were instead deposited in the grave separately (Janowski, Kurasiński 2003; Wrzesińska, Wrzesiński, 2005).

The lack of post-consumption traces was probably affected by the course of such feasts. If the funeral meals took place on the graves, then their traces did not remain as a result of a destruction of

material overlaying the graves. Remains after such feasts were spread out across the graveyard area and if they were registered during archaeological investigation, then they occurred in contexts from which artefacts were not studied. Another element of the feast which doesn't leave any archaeological traces is the custom of eating the meals by tables placed next to the graves (Korolenko 2006, p. 18). We can also assume the possibility of people cleaning and moving the rubbish beyond the graveyard area. And so in Bulgaria sacrificed animal skin belonging to the sacrificer, as well as its bones and remains, were buried after eating, or put into the deep water, so that other animals couldn't spread them about. Only birds could prey on these remains (Moszyński 1967, pp. 257–258). There is one more reason for removing the remains beyond the graveyard limits. In Belarus, four times a year people celebrate *radawica*, which is a celebration in memory of the dead, combined with feasting on the graves. First, eggs are rolled on the tombs, which are later given to beggars. After spreading the tablecloth on the grave, food is placed on it and sprinkled with alcohol. There should be an odd number of dishes and what is left is also given to beggars (Gołębiowski 1830, pp. 268–269).

Conclusion

Animal remains deposited in the grave have a different symbolic significance depending on whether they are inhumation or cremation burials. In the case of the latter there are at least two functions for these remains. Where bones are burned through we are dealing with burning of some animal parts together with the dead, while in case of unburned bones, we can consider these remains as grave goods that were deposited later. The rarity of animal bones in inhumation burials may provide evidence of advanced church interference in funerary ceremonial. However other factors could have also influenced this. It is difficult to say if Christian priests could have had any influence over burial customs, as for example at Cewlino (11th century). Despite that, any animal remains, which would have provided evidence of ritual consumption within the limits of the cemetery, were not registered there. In the end we would like to propose a very important research postulate: the necessity to verify and analyse osteological material recovered during the investigation of cremation

cemeteries. It seems that from this material it is still possible to extract animal remains. This would complete the state of our knowledge concerning the early medieval beliefs of Pomeranian Slavs.

Note

1 Then they brought drinks, fruit and aromatic herbs and they put it [all] together with him. They brought [also] bread, meat and onion and put before him. They brought a dog, cut it in two and threw it on the boat. Then they brought his weapon and placed it next to him. Next they took two saddle-horses drove them back so they sweated and then cut them with a sword and threw their meat onto the ship. At last they brought cows, cut them also and threw them onto it. Then they brought a chicken and rooster, killed them and threw them on it. (Ibn Fadlan...p.112).

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Spatial Aspects of Globular Amphora Culture Funeral Rites with Animal Deposits in Poland

Radosław Szczodrowski

Introduction

This paper is concerned with a problem of an aspect of Globular Amphora Culture (GAC) funeral rites, specifically: rituals associated with the discovery of burials within, or near which animal deposits were made. The term “animal deposit” will be used in the study; though not quite adequate it has a decidedly more neutral meaning than “burial”, “animal grave”, “sacrificial deposit” or “sacrificial pit” (thus not imposing any interpretation; see Pollex 1999). Animal deposits have been found in many cultures of the late Neolithic Europe (Szmyt 2006, Pollex 1999). Considerable numbers of these are associated with the GAC, but mainly on Polish territory, and it is the Polish archaeological sites associated with this phenomenon that are the base source for this study. The GAC animal deposits occur both in settlement and burial site contexts; this article discusses the finds related to burial sites. The geographic range of all GAC finds includes, essentially, the eastern part of Germany, Poland, and part of Ukraine. The timespan for this archaeological culture is estimated to run from 3500–2300 BC (Szmyt 1996).

Studies of the phenomenon of animal deposits have a rich history. One of the first broader discussions of this phenomenon is the work of Lidia Gabałówna (1958). Besides the presentation of discoveries of this type from Brześć Kujawski, the author discussed a number of European sites with similar findings. Another work addressing the

Neolithic and early Bronze Age animal deposits is a study of a German scholar Hermann Behrens (1964), meticulously presenting findings related to animal deposits from the Old World. Of more recent works, on this topic, it is worth noting the publications of Pollex (1999) and Szmyt (2006). The first of the studies is an interpretative commentary rather than a full presentation of source data, the second is a brief summary of studies on GAC animal deposits in the region of Kuyavia.

It is usually assumed that activities related to animal depositions in the Globular Amphora Culture were of ritual character (Szmyt 1996, 2006). In this work, I will try to identify patterns of ritual behaviour that in practice would result in archaeological finds such as these. The analysis of spatial relationships between archaeological animal deposit features, and the relationship between specific deposits within them, will be of considerable importance in this endeavour.

Globular Amphora Culture (GAC) and animal deposits

At the start, I would like to focus on several aspects related to the deposition of animals in Globular Amphora Culture, which until now have not always been appropriately emphasised. I believe that an important aspect of this custom was the depositing in pits of, not only cattle but also other types of animals, including pig, goat or sheep, which is often marginalised in dealing with the phenomena studied here (Gabałówna 1958, Kowalski 1988, Pollex 1999, and for a different approach Szmyt 2006).

The spatial relationships between the elements of deposits within the pit (i.e. specific relics of individual animals – if they are possible to observe), or spatial relationships between features containing deposits are also a very crucial fact. Such considerations were rarely taken up by previous researchers of the discussed phenomena. Thus, in this study I will base my observations on an analysis of a single animal deposit within the feature, rather than the entire feature, often containing many deposits.

It also seems that the general line of division of finds related with animal deposits, and thus the principal means of division of the rituals associated with archaeological facts studied here, runs along the burial site – settlement site axis. Rituals associated with deposition of animals differ significantly in these two cases. Less

important is the difference between deposits of animals within human graves and close to them (e.g. Szmyt 2006, p. 6) – probably, which I will try to prove further on, in this case the idea behind animal deposits was the same – in opposition to the deposits registered in settlements. In this elaboration I will focus on deposits, associated with the funeral rites of the GAC people.

A few facts related to the spatial relations of these GAC animal features in relation to other features of this type, and to human burials often accompanying them are worth noting here. Such spatial relationships are probably a result of a series of distant in time events associated with deposition of animals in the ground. These activities are associated with pits, which are in spatial relation to each other, thus they have a set of related features common to this group which are likely to be a relic of a course of ritual activities, perhaps distant in time. Spatial relationships between objects can be of two kinds: horizontal – then the features are coaxial, or are close to each other, and vertical – where one feature is located on another. In the case of the horizontal relations of GAC pits the distance between them ranges from ten centimetres to, most often, about 2 meters (although longer distances may occur too). The spatial relationship between features with animal deposits have been already described in the literature; the report on the “Gajowizna” site in Złota, Sandomierz district (Krzak 1977), will be used here as the main example. In Złota 35 features were discovered, part of which were features with animal deposits, some of which were considered to be human burials.

The spatial relationships on this site seem clear. Pits with human and animal deposits were grouped in series placed along a common axis ([Figure 5.1](#)). In the case of most features from Złota, their relation to other features of the site is obvious; only a few features were found on their own. Most of the pits are arranged in clearly readable series of two to four features that stand out from the rest. The most westerly sequence of features is composed of those with No. 28, 29, 30 and 31, arranged one behind the other in a northerly direction. Two of these features (No. 30 and 28) contain human deposits, and 3 of them animal deposits (No. 31, 29 and 28). What is interesting is that in two features (29 and 31) whole animals were deposited; in these pits, there were no artefacts besides the animal bones (except a bone spindle-shaped blade in feature 29). A similar linear arrangement, not located on the main map, is

composed of No. 1, 3, 4, and 6. In this case, there is a single pit with human remains (No. 1), the remaining ones containing animal remains, including pit no. 3 with a whole animal skeleton (this pit also contained no inventory). Another similar arrangement is composed of No. 26, 27, 32 and possibly no. 33 located to the north of the main line. Also in this case, we can distinguish a feature with a human deposit (32), a pit with the remains of an entire animal and no inventory (No. 27 – here also only a spindle-shaped blade). The contents of pits 26 and 33 are not precisely defined, although they probably contain animal remains. A similar pattern can also be found in the case of a series of features directed northerly, such as No. 14 (human remains), 24 (fragmented animal remains) and 25 (complete animal deposits, with fragments of pottery, unlike in similar pit series of the previous feature arrangements). Feature groups 19, 20 and 21 (possibly associated with them 22 and 23); 10, 16 and 17; as well as 8 and 9, possibly also 11a and 11, could also be similar to this pattern. The remaining features are usually single, away from the dense areas of earlier mentioned pit sequences (asides of feature 34, located near No. 26, 27 and 32). It cannot be ruled out that these features were also associated with other pits. However, some of them may have been previously destroyed by ploughing or explored by robbers. (Krzak 1977)

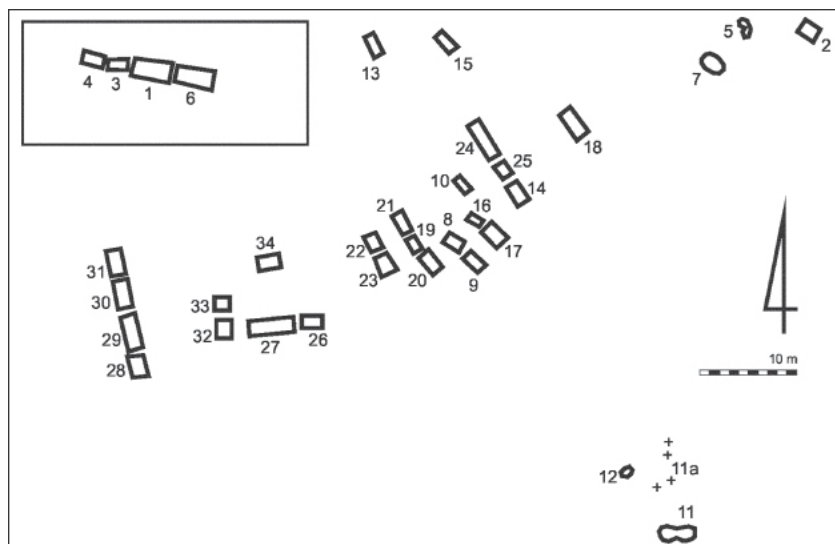


Figure 5.1: Plan of "Gajowizna" site in Złota near Sandomierz (based on Krzak 1977).

In conclusion, on the basis of mutual relationships between features on “Gajowizna” site in Żłota, Sandomierz district, it can be assumed that the spatial relationship of features is probably associated with the sequence of ritual activities that took place consecutively. These activities are related to sequences of linearly arranged pits (two, three or four), in which there usually is a feature with a human, a fragmented animal and a complete animal burial. Similar systems of mutual spatial relationships, though as it seems in lesser numbers, can be found on other GAC cemeteries containing animal deposits.

The site in Sandomierz is one such example (Ścibior and Ścibior 1990). The whole site – a GAC graveyard, occupied about 3 hectares. Among the graves, three features with animal deposits were uncovered designated by the investigator as “grave” I, VI, IX. Feature VI almost coincides with a proper human grave; feature I was located about 3 meters to the west of a human grave. Pit No. IX, with an animal deposit occurred near the grave of a human, No. X (specifically about 1m north-eastwards). It is also possible that along the axis of feature IX there was another human grave. Unfortunately, part of the site in the northwestern direction, where the grave could have been located, was destroyed by a road cutting through it. Such feature arrangement includes “human grave” – “pit with an “animal deposit”, intermixed with human graves with no animal deposits.

At the burial site in Pikutkowo (site 5B), one of the animal features (No. I) is located almost on the axis of a grave marked VIa, in an easterly direction (Wiślański 1966, p. 220). Pit No. 31 on a burial site in Malice was located about 2 meters to the east of a grave-pit No. 33, these features were probably linked. Another possibility – the pit may have been linked with feature No. 32, as it lies exactly on its axis (Kamieńska 1972). A site in Kurzątkowice was composed of 6 funerary features of which 5 contained animal deposits. Features were located near each other (Wojciechowski 1967). In Rzeszynek two features were located one on top of the other. A cist grave with a human burial was dug deep into the ground. On it or over it a cow was deposited (Wiślański 1966, p. 163).

Site 4 in Brześć Kujawski is also very interesting. There a group of pits with animal deposits were uncovered in the western part of the excavation, as it appears, on the edge of a settlement village (as

it seems considering the reduction of number of storage pit and loose finds in the vicinity of these features). The largest concentration of storage pits was located in the eastern part of the site. Pits with animal deposits occupy a compact area of about 25 square meters. Within a distance of about 20 meters, there were no other GAC features. A pit with two “animal graves” (the term quoted after the explorers of the feature and L. Gabałówna who provided a detail describing the site) No. 1 and 5 deserves a special attention. These were the only features with a distinctive grave-pit; others were uncovered in cultural layer. “Animal grave” No. 4 was located westwards of the above-mentioned pit. Parallel to this arrangement, approximately 2–3 meters to the south, there were two symmetrical cattle deposits. The entire assemblage of features seems to be intentional in nature and confirms their relationship with each other. The pits with animal features No. 1 and 5 seems to be the central one, alternatively it could be the feature No. 1 – as it is the only one equipped with pottery, other pits contained no artefacts (except for bone plate pendants initially probably arranged symmetrically on cattle in feature 5). Other features may have been linked with No. 1. It is worth noting that under the scattered bones of one of the pigs, a skeleton of a one and a half year old child was uncovered. The child was laid on the right side with its legs slightly contracted and arms stretched along the body (Gabałówna 1958).

It seems that pits from Brześć Kujawski are the only spatially interrelated features with animal deposits occurring in a settlement context. However, such a characterisation of these objects can be questioned. The different, funerary nature of these findings is observable in their peripheral position and displacement from other settlement pits, as well as presence of a human skeleton (in this case a child). Another argument is that the settlement’s animal deposits are generally not spatially interlinked with each other. As observable in Dobrze or Mierzanowice, where pits with animal deposits were from a few up to twenty metres away from each other and separated by pits of different nature (Nosek 1967).

Summarising the discussion on the spatial distribution of features with animal deposits, two main types of spatial relationship of features can be marked out: firstly, burial ground animal features are strongly associated with other features of the same type, or features containing human remains; secondly, settlement site animal features are usually scattered and unrelated. The exception

to this rule is the site at Brześć Kujawski. There subsequent animal deposits are close to each other; furthermore they are the only animal features in the vicinity. However, as it was said before, the settlement nature of the features from this site can be questioned.

In the context of attempts to define the standard of activity sequences related to animal deposits, the determination of the spatial relationships between various features with animal deposits and human graves seems to be a very important issue. The arrangement of subsequent spatially sequential deposits of animals and humans in pits (or deposited vertically, one on another), can help us to identify the principle of the ritual.

Activities relating to the deposition of animal remains

After a detailed analysis of animal deposits from burial sites we can distinguish two basic types of activities related to the deposition of animals. Here, to simplify, they will be called activities of A and B type. It has to be emphasised here, that the activities of both kinds, are very diverse and they can occur, both in separate pits, as well as in a single pit. I assumed that in the discussed features human burial (if present) is the main element (denoted as G). Cautious reconstruction of the first type (A) of activities is as follows:

- An animal (or animals), most often one or two individuals of a large species, was (were) led into a pre-dug pit (usually after the deposition of a deceased human individual, if the pit was also a human grave).
- In case of two individuals of the same species, they were aligned in parallel to each other, most often with muzzles near one of the shorter sides of the pit.
- The animal or animals were slaughtered.
- If smaller animals are also present, they were killed and deposited prior to larger ones (the slaughter did not have to take place inside the pit).
- If the human burial was a cremation (burned in a pit) or there was a fire for other reasons, the deposited animal had no contact with the fire. The part of the pit in which the animal was deposited was free of fire, or the fire was burned before the animal was deposited.
- The pit was buried.

The above activities in archaeological practice result in the effect of

complete animal deposits, most often of large animal species. The procedure outlined above could occur in the following features:

Firstly, directly in a human grave. Typically, the animal or animals were killed and deposited in another part of a human grave, away from the deposited human body. Butchering of animals took place after the human body was deposited. Examples of such activities can be found on sites in Parchatka or Raciborowice (Nosek 1967, pp. 236–237, 206).

Secondly, next to human graves, which could include other animal deposits, but without any other activity relating to animals. In this case a special pit was dug near the grave (usually lying along its axis), where animals were butchered and deposited. Traces of such activities we can find on sites in Kolonia Dębice or Inowrocław (Wiślański 1966, pp. 215–217, 147). These activities were carried out after completion of activities related to the actual burial pit. Sometimes an animal was deposited on a "closed" cist grave (rather than next to it), thus creating a vertical layout. This occurred in Rzeszynek (Wiślański 1966, pp. 163–164).

Thirdly, in the pit next to a human grave, in combination with other activities relating to animals. Activities in question were probably carried out before B type operations (see further text). Most often animals were butchered and arranged along one of the narrower sides of the pit. Examples of such activities can be found on sites in Pikutkowo (feature 1: Wiślański 1966, pp. 220–222) and Złota (features 24, 27, 29, 31, possibly 3, 4 and 6).

Animals most often deposited in this way are primarily large species: mainly cattle, occasionally a horse, deer, and sometimes smaller animals (goats, sheep, and pigs). Also frequently seen in this layout, are double, symmetrical cattle burials.

The arrangements associated with A type activities are common among animal deposits of the Globular Amphora Culture. In addition to the obvious presence of single or double deposits in human graves or near them, it appears that similar systems occurred also in a few pits in Złota near Sandomierz. For example, in pit No. 31 (Figure 5.2), despite the apparent density of the deposits, two cattle individuals parallel, with muzzles to each other can be marked near the northern side of the pit. Other deposits are grouped one on another in the southern part of the pit. Without a doubt, this arrangement is similar to the pit with two cattle in Zdrojówka (Figure 5.3), Pikutkowo (Figure 5.4) or Parchatka

(Wiślański 1966). Activities related to the second part of the pit also have analogies on other sites; they will be the basis for the separation of a different type of animal depositing.

The second type of ritual (marked as B) differed significantly from the first one. The pattern of this type of behavior will be described as follows:

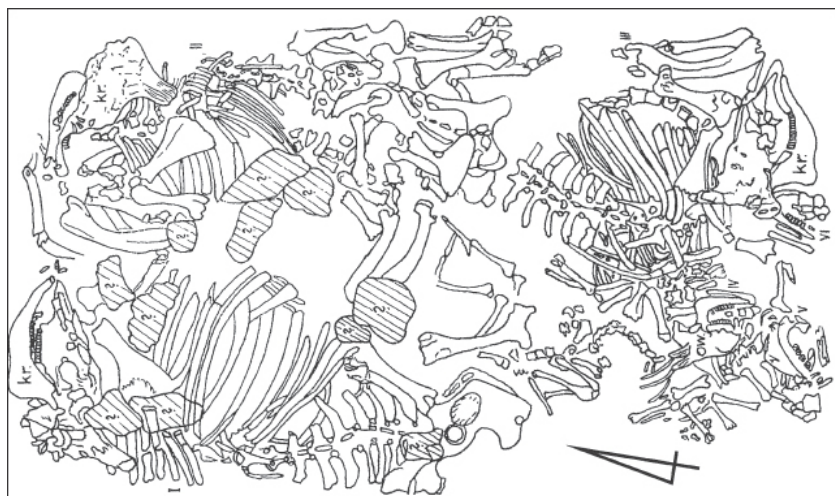


Figure 5.2: Feature No. 31 from “Gajowizna” site in Złota near Sandomierz (after Krzak 1977).

- The animals were probably butchered next to pre-dug pit, they were often dismembered, perhaps also consumed.
- Small animals (sheep, goats, pigs) were butchered prior to larger ones (cattle).
- After butchering, animals or their parts were placed in one place within the pit.
- Deposition of this type of animal carcasses in the pit was conducted after the deposit of other individuals (human, or animal related with activities of type A).
- Often the pits were burned out; possibly other activities took place too.
- The fire could come into contact with the deposited animals, or their parts, but the animals were not burned completely.

Activities of B type, similar as those of the A type could occur in the following features:

- Directly within a human grave. In such cases the carcass was

often cut to pieces, although this was not the rule. It was similar with the use of fire. Examples of such activities can be found on sites in Strzelce (feature 3, perhaps also No. 2 – Wiślański 1966), Złota (feature 1, perhaps also No. 30 and 32 – Krzak 1977), Zdrojówka (in a cist grave – Wiślański 1966), perhaps also Malice (Kamieńska 1972).

- Next to a human grave in which no other activities relating to animals were conducted (it could contain other animal deposits). Examples confirm such evidence of animal deposition, e.g.: sites in Stok (feature 2 – Nosek 1967, p. 241), Zdrojówka (a small layer of burned material between a cist grave and a double cattle deposit), Złota (features 4, 28, maybe also 3 and 6).
- Within the main pit, next to a human grave, in combination with other activities concerning animals.

Activities discussed here were probably carried out after those of the first type (A). The animals were usually deposited in a different part of the pit than those associated with the activities of the first type; also, it is possible, that they were arranged on the deposited animals. Examples of such activities can be found on sites in Pikutkowo (feature 1, specifically its eastern part) and Złota (features 24, 27, and 31). Another characteristic of such a system is the fact that most often animals of several different species were usually deposited in this way (in one feature). “Set” of species most often occurring together consists of cattle, pig and goat or sheep. Animals of one species are often also deposited in multiples; cattle in particular dominate here.

The above models of depositing should be treated with caution. Unfortunately, we do not always have full data on the characteristics of deposits, and those that we do have are not always reliable, especially in cases of incomplete documentation of features explored before World War II (such as in case of Złota near Sandomierz). However, in the cases presented, it is possible to trace some significant trends in the activities concerning the animal deposition in pits.

In view of the information presented above, it can be assumed that the ritual activities of the first (A) or second (B) type could occur directly in the course of work related to the main deposit (meaning human), or they could be made in a later time, which is related to their spatial distinctness. On some sites activity types were overlapping (an obvious example is the sequence of features in

Złota). Aside from an animal deposition within a pit, a subsequent deposition of an animal in another pit was possible, according to the scheme of the first or second type of activity. Considering the spatial arrangement of features, activities in additional pits, outside of the main feature took place in various orders. Sometimes an activity of the first type was conducted in a separate feature, and sometimes it was an activity of the second type.

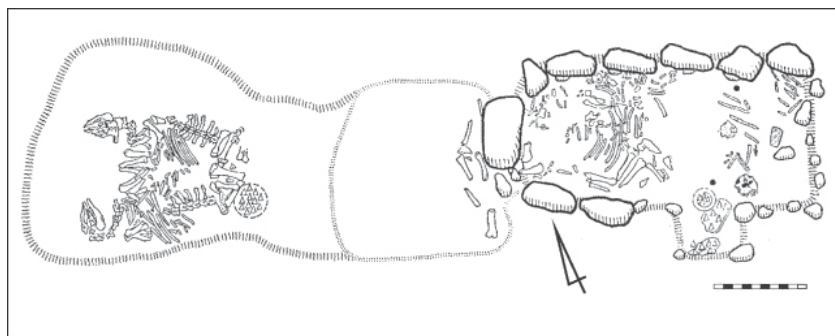


Figure 5.3: Animal deposit in Zdrojówka (after Wiślański 1966).

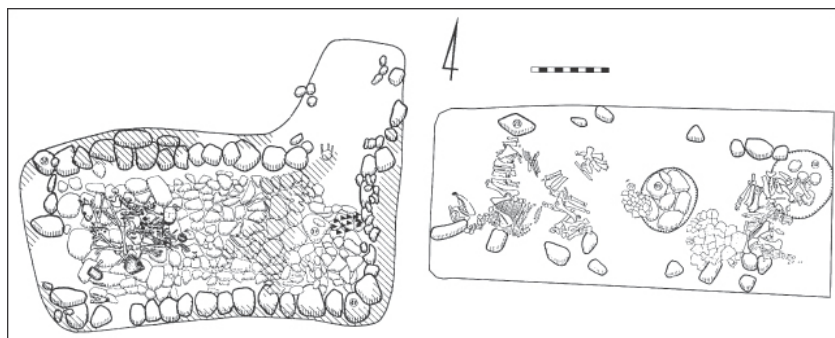


Figure 5.4: Grave No. VIa and animal feature No. 1 from Pikutkowo, site 5b (based on Wiślański 1966).

The phenomenon of interchangeability of inter-pit activity types is also very interesting. For example, in certain cases, the activity sequence $[G + B] + [A]$ ¹ was conducted according to the scheme $[G] + [A + B]$, meaning that if an activity (an element of ritual) was not held during the burial of a human, it took place later in a separate pit, along with other activities assigned to it.

Attention should be also paid to the ways of marking spatial separateness of pits, in which the types of activity, presented above

can be observable. It seems that the spatial separateness is always linked to the chronological separateness of executed activities. Such separateness could have been marked with the use of another pit, dug next to the original one or by means of deposit of an animal above the pit with a human deposit. It could also be associated with two sub-features within one feature.

Examples of ritual patterns of animal deposits on various sites are summarised below:

[G + A] (many sites, for example Parchatka, Raciborowice)

[G] + [A] (many sites, for example Kolonia Dębice, Rzeszynek, Inowrocław)

[G + B] + [A] (Strzelce feature 3)

[G + B] + [A] + [B] (Strzelce feature 2, Zdrojówka)

[G] + [A + B] (Pikutkowo feature 1)

[G + B] + [B] + [B] + [A] (Złota – series of features 1, 4, 3, 6)

[G] + [A + B] + [B] (Złota – series of features 32, 27, 26)

[G] + [A + B] + [A + A] + [B] (Złota – series of features 31, 30, 29, 28)

[G] + [A + B] + [B] (Złota – series of features 24, 25, 14)

Conclusion

In conclusion – activity sequences related to the GAC animal deposits were often quite complicated in nature. We can distinguish two basic types of ritual activities (A and B) separate from each other in terms of quantity, diversity and treatment of animals. In the context of a single feature with a human burial, animals were deposited once but sometimes two or several times. Within a single pit various activities could have been carried out. It is worth mentioning that activities concerning burial of a human and animal deposition were probably extended over some time. It is important, that not only aspect of creation of multiple pits for one burial, but in some cases, also the time extent of conducting various activities within a single pit (e.g. deposition of animals and humans, filling the pit to a certain level, burning fire, and the performance of other activities).

The remarks, concerning animal deposits made in this article operate on sources that are not always characterised by such cognitive qualities, that one would wish for. Major share of the described sites was explored before World War II, meaning that aside from exploration methods inadequate by today's standards, there is also the problem of incomplete documentation. Important

elements for interpreting characteristics of the animal deposits such as age, sex, completeness or division of a carcass, traces of consumption, etc. are usually underdeveloped in earlier works on animal deposits, which greatly hinders a proper evaluation of materials. For this reason, the analysis of Globular Amphora Cultures animal deposits must be done taking into account the above-mentioned imperfection of sources, which may imply differences in the perception and interpretation of the nature of the discussed features.

This paper is an introduction to a more thorough interpretation of these prehistoric phenomena in a broader context. The presentation of ritual elements of the Globular Amphora Culture from a cultural perspective is still awaiting development; it would allow assigning specific cultural meanings to described ritual operations. A separate issue is the comparison with ritual rites associated with the deposition of animals in other areas occupied by Globular Amphora Culture and in different cultures of the Neolithic.

An interesting aspect of the presented phenomena is its social context. The nature of GAC's social organisation remains problematic to this day; the same as the character of its economy (Kruk and Millissaus 1999, p. 190). The discussion on the subject results in many different conclusions – from those recognising GAC people as patriarchal and hierarchical (Wiślański 1979, pp. 292–293), to those recognising only “symptoms of ranking” but with an undeveloped structure of authority (Szmyt 1996, Kadrow 2001). In the latter case the development of social structures would supposedly occur during the existence of Corded Ware culture and later, in the Bronze Age.

It seems that the presence of animal deposits in GAC's sepulchral context is more likely to be associated with a fairly strong social differentiation rather than egalitarian community. Looking for analogies between the structure of burials, and the social structure, it should be taken into account that probably only some members of this community, mainly those of a higher hierarchy, were interred in such a manner that the burials are archaeologically perceivable today (this is testified by a relatively small amount of known GAC graves and, in mostly cases, their megalithic character). Only part of these burials were associated with single or multiple animal deposits. Perhaps animal deposits were a way of distinguishing buried individuals – immediately after the burial, or later (which

seems reasonable considering the additional pits, which were probably dug and ritually used posterior to the main burial). It is also possible that animal deposits are, in a way, equivalent to additional human burials in multiburial graves. This matter requires further studies.

Another interesting phenomenon is the sites with multiple locations of animal deposits (primarily Złota, but also Klementowice and Sandomierz (?)). Perhaps, a larger amount of animal deposits (as well as larger number of human burials) was associated with the status of a cemetery. In Kujawy, near Brześć Kujawski, Pikutkowo and Kolonia Dębica, we can observe agglomerations of cemeteries with animal deposits (Szmyt 1996, p. 122, fig. 46). This may suggest a greater social significance of this area compared to other areas of Kujawy, where human burials with animal deposits are spatially more scattered (Szmyt 1996, p. 122, fig. 46). These conclusions should be regarded only as preliminary. They are a basis for further research on the relationship of burials with animal deposits to those without them, as well as of individual burials to multi-burial graves of GAC. Future studies should also consider the relations between specific sites. All these relations could perhaps be translated into an adequate definition of GAC people's social organisation. Without a doubt, animal deposits which are an intriguing archaeological phenomenon of the European Neolithic require further multi-aspect research.

Note

1 Box bracket encloses one feature (pit).

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Horse Burials as Public Rituals: Lithuanian Perspectives

Mindaugas Bertašius

Introduction

Recently, there has been an increase in scholarly interest in past ritual practices which have left traces in the archaeological record, and some archaeologists are rethinking their understanding of rituals as social actions or performances. In prehistoric times there was arguably no clear distinction between the sacred and the profane. Archaeologically, ritual activities may not be easily distinguished, spatially or temporally, from more “mundane” or secular activities. Every ritualised activity may have been incorporated into the cycle of daily life in order to guarantee some positive result in the future. Many “rituals” were designed to achieve a substantive change of material conditions, whereas others provided people with the means to understand how to live in the world (Brück 1999, p. 320).

Large quantities of horse bones recovered from burial grounds are very characteristic for the Baltic regions. Horse burials in this area have been known since the Roman Period (cf. Piątkowska-Małecka 2000, p. 188; Nowakowski 2003, p. 53; Banytė-Rowell 2007, p. 138f), and are found along the Eastern Baltic coastline; in the coastal region of Lithuania some horse graves dating back to the Roman period have been found and investigated. Sometimes ritualised horse offerings were expressed through the deposition of horse teeth that are subsequently found scattered all over the grave (Banytė-Rowell 2007, p. 144). On the Samland Peninsula the earliest graves containing horse bones date to the Early Roman

Period; mostly consisting of only horse teeth. But in other regions occupied by the Baltic tribes, such as North East Poland (the Bogaczewo culture), horse graves are not directly connected with human graves. This type of location highlights the role of horse burials in the sphere of cult and religion. In some cases these burials appear to have been used for delineating and dividing sacred space, as they were located in three clearly distinct zones (e.g. the cemetery at Paprotki Kolonia; Karczewska, Karczewski and Gręzak 2009, p. 62).

It is likely that horsemen were the most cosmopolitan members of their society. Expressions of martial status are typically found in their graves; these could represent equestrian equipment (belonging to both riders and horses), splendid belts with exclusive clasps and plates, or varied arms and armour which belonged to the warrior. This tradition had become very clearly defined during the Migration Period. In Western Lithuania, in the region near the banks of the River Nemunas and between the Nemunas and Daugava (Latvia) rivers, isolated equestrian graves with buried horses have been discovered (e.g. Bliujienė and Butkus 2009, p. 154, fig. 2), but their numbers are limited.

An abundance of horse graves dating to the 8th–12th centuries alongside expressive horseoffering rituals are well known in the central region of Lithuania. In the Viking Age they were a characteristic of Prussian and Central Lithuania societies (Figure 6.1). In the 9th century, Wulfstan, a traveler and trader, wrote about the importance of horses in contemporary Prussian society (Vēlius 1996, p. 166f). There are some burial grounds known with particularly large numbers of buried animals, and in Central Lithuania some of these were investigated during the few last decades. Horse graves are usually found separately from human graves, consisting of discrete “horse graveyards” within the cemeteries. But the results of archaeological investigations are mostly not summarised and remain unpublished. There are real difficulties in the interpretation of the archaeological data. Graveyards are usually situated in the river valley where industrial activities during the 20th century have been most intensive, resulting in the substantial destruction of these areas (Figure 6.2). As a result, these graveyards are only partially investigated from the archaeological point of view because of such damage (e.g. the graveyards of Veršvai, Mikytai, Nosiedai, Pakalniškiai, Seredžius

and Grauziai). It has been impossible to reconstruct the original area and the nearby surroundings of the graves. In the absence of almost any historical sources concerning animal ritual killing in the Baltic region, some ideas were obtained from narratives of Scandinavian and Saxon origin.

New material has been predominantly obtained through the investigations of the burial ground of Marvelė in Kaunas. It is the largest archaeologically investigated Lithuanian prehistoric object and provides an abundance of different types of graves (inhumations, cremations and an extensive variety of horse graves) as well as enabling some plausible interpretations of social practices. During two last decades (1991–2007) around 250 horse graves with c. 300 skeletons have been investigated (Bertašius 2009a). Horse burials, dating back to the 8th–11th century, most significantly characterise the Central Lithuanian region. The total number of horse graves in Central Lithuanian cemeteries constitutes c. 1400 from an area of around 700 kms². The vast majority of graveyards are situated within the open area in the river valleys. Two types of ritualised behaviour relating to horses have been defined as a result of archaeological excavations. In the first case the whole horse was buried, probably alive (represented by a skeletal horse burial in a pit), whilst the second type may be interpreted as a ritual feast (represented by scattered horse remains). There are no clear temporal differences between these practices, but their spatial location differs, as these two grave types are not usually combined. Horse graves are usually found separate from human graves, forming special sections within the burial ground, and this is evident in some parts of the graveyard at Marvelė. Sometimes this separate part forms a narrow line between inhumations (Figure 6.3). A similar situation could also be reconstructed at other burial grounds. Usually it is quite difficult to reconstruct the original layout of the graveyard, but at Marvelė it is possible to identify three separate local “horse graveyards”. Unfortunately we do not have comparable material from the other Central Lithuanian burial grounds with horse graves; as a result of the different circumstances relating to their preservation it is not possible to reconstruct the original layout of these graveyards. The location of these “horse graveyards” varies in respect to human graves and they are arranged in different ways in relation to the micro-landscape. This micro-landscape is the main area where the

cultural events and rituals took place: it is the subject of public space. Everywhere in this region where horse graveyards display clear traces of expressive ritual and performance, the character of the graves suggests a specific practice (cf. Bertasius 2006, p. 69f).

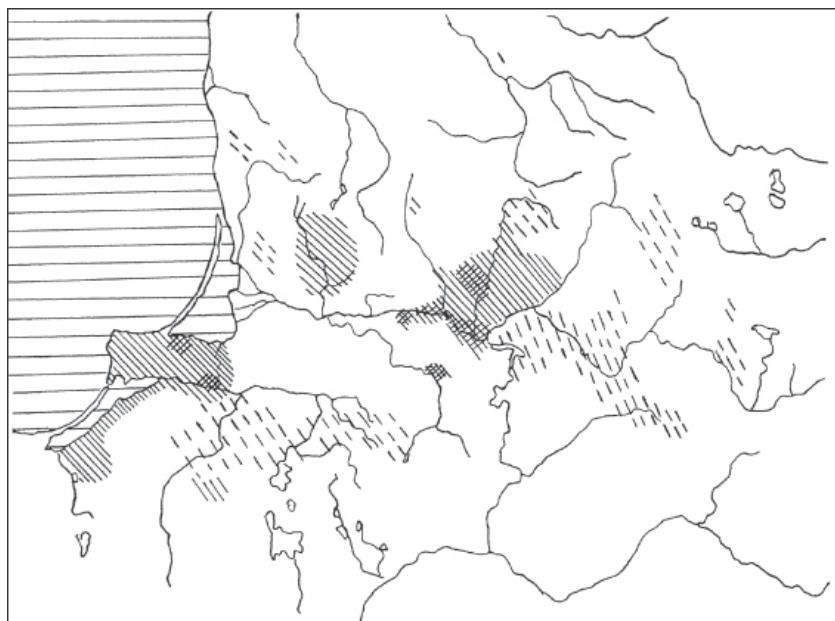


Figure 6.1: Distribution of horse graves in the Baltic dated from the 8th–12th centuries AD (after Bertasius and Daugnora 2001, p. 389).

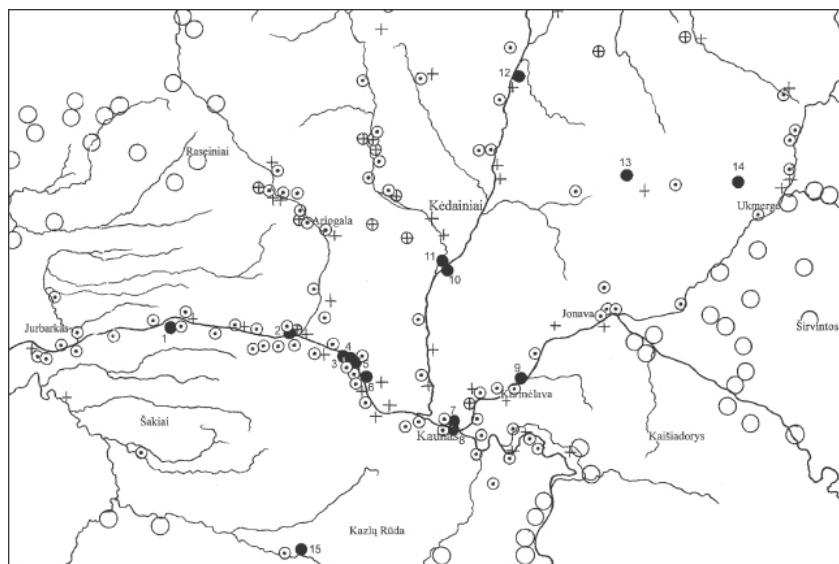


Figure 6.2: Central Lithuanian graveyards with horse graves located in the river valley (● – graveyards with a separate section of horse burials; ⊗ – other graveyards; + – traces of graveyards; ⊙ – hill-forts in Central Lithuania; ○ – other hill-forts). Marked graveyards: 1 – Pakalniškiai, 2 – Seredžius, 3 – Pavilkijys, 4 – Nosiedai, 5 – Mikytai, 6 – Kriemala, 7 – Veršvai, 8 – Marvelė, 9 – Masteikiai, 10 – Graužiai, 11 – Ruseiniai, 12 – Barinė, 13 – Tulpiakiemis, 14 – Obeliai, 15 – Nendriniai.

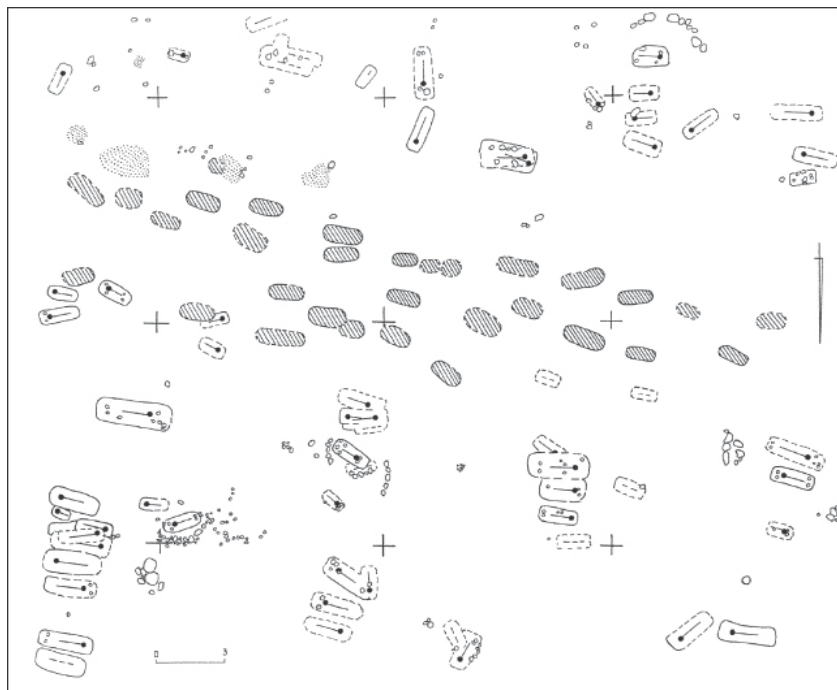


Figure 6.3: Horse graves (lined ovals) in two or three rows situated between inhumations and cremations (after Bertašius 2002, p. 198, fig. 93).

The graveyard as a public area

Non-literate Iron Age peoples thought and behaved in different ways to literate societies, and memory played a much greater role in the preservation of their traditions (cf. Goody 2000). Stories and rituals vary according to different circumstances and material objects play crucial roles as mnemonic devices to help performers of rituals and tellers of stories remember the sequences of actions (Wells 2002, p. 19). The prehistoric graveyard could be considered as a special ritual place for socially important actions. Specific social practices – burial rituals, performances and funeral services – could be interpreted as carriers of special meanings, which might form the basis for collective memory. The traces of such practices are found everywhere around burials. Stone settings and circles, paths and pavements, regularly arranged fire places and small hearths, ritual pits and ditches, smooth elevations and barrows or ponds with sporadically springing water could be used for the arrangement of local public space; these are usually found in the

immediate surroundings of burials. Such components created the medium for public ceremonial and were understandable for everyone in the society. In native Lithuanian and Prussian tradition sacred ritual places were associated with the peculiarities of the cognitive landscape; trees, hills, rivers and lakes, springs, stones and animals had been worshipped as signs or expressions of sacrality (cf. Praetorius 2003). In this respect, the Lithuanian language is very eloquent. In comparison with Slavonic languages which were in close vicinity to the Baltic, the Baltic languages (Lithuanian, Lettish and formerly the Prussian languages) have plenty of sacred names related to natural features – water, trees, hills, stones, natural places and others (Toporov 1988, p. 24). Hence they suggest a particular interest in the microdetails of nearby landscapes. It seems that by giving prominence to certain rituals, meanings are created, which might form the basis of new social structures. On the other hand the rest of the material culture – whether grave items or a complex of artefacts and practices near the grave – was a repository of accumulated memory and a vehicle for generating meaning in the world (Moreland 2001, p. 38).

Prehistoric society was closely connected with the world of death. The need for consolidating social groups has generated a certain system of symbols and rituals. The area of the graveyard was a meeting place and depended very much on the peculiarities of the cultural landscape. Some examples could be added to support these theses. The meeting places of Saxon local councils were “on the hilltop”, “sandy mound” or “near the graveyard” and the suchlike (Modzelewski 2004, p. 328). In Lithuanian tradition, the meeting place very much depended on the cultural landscape and could be “the sanctuary near the oak-wood grove” or “the sanctuary near the burial mound” (Modzelewski 2004, p. 332). It seems that these objects have been closely connected with funerary rituals. No doubt in prehistoric times, during the funeral, many more local mnemonic signs would have been attached to the landscape. During the long span of using this graveyard the “memory field” generated particular social practices with the rituals and ceremonies, understandable for everybody in that society. The prevailing rituals, such as cremations, widespread horse offerings in specific areas, the handling of material culture and local mnemonic signs created a repository of accumulated memory. The landscapes were loaded with a material world in which wells and springs, trees and stones

were points at which the natural and the supernatural worlds conjoined, and in which human beings understood themselves and their past (Moreland 2001, p. 61) They remain largely mysterious for us and some explanations seem beyond our grasp. Here we are dealing with the special nature of collective memory, memory that is based on the steady re-creation of rituals, performances and other social practices that could be interpreted as “stories” or “texts” (cf. Lotman 2004, p. 109f). Such a story became more understandable for everybody in the society, since the rituals or ceremonies were easily recognized within that community.

In prehistoric times the daily experienced environment was an important factor in a cognitive system which must have incorporated all the senses: seeing, hearing, feeling and smelling (Westerdahl 2006). People were influenced by their environment; their adaptation to it, and to other people, were based on their daily experiences. Members of the society were bound together through shared memory based on their shared history.

The sense of place and mnemonic signs

The native cosmology was based on oral tradition and the application of all the senses. The local natural elements that are lines in the landscape delineate the sacral and profane sphere in the micro-landscape. Many different landmarks such as an oak, a big tree, a dry oak, a field, a bog, a hill, a grove, a lake, a river, a meadow and a pond were often mentioned in the historical sources. Using these landmarks local places could be appreciable as significant spaces that have been inscribed with the meaning. Places in open areas with steady rituals such as horse offerings secured social structures. This motivated the establishment of institutionalised religion that in turn consolidated the group. These ritually significant places with meanings and memories were intertwined and created some kind of “a sense of place”.

In this micro-landscape with different local landmarks horses were buried during the course of rituals. Horses were usually buried in a separate section of the cemetery in a different location to that of human graves (Bertašius and Daugnora 2001, p. 390). That suggests an idea concerning the special and socially important places in the graveyard. It is relevant to notice that the area with horse graves is usually situated on elevated ground between the

human graves. Thus it creates the plane and open public place which seems to be adjusted for the ritual. In a number of cases such situations could be quite clearly recognised during archaeological investigations (Marvelė, Veršvai, Pakalniškiai, Serdežius, Kriemala). The natural hill which used to be about 2–4 meters high, located in a river valley and surrounded by remains of the riverbed was used as the public place for horse offering rituals. A very clear dependence of the position of graves on the microlandscape had been determined in the graveyard at Marvelė.

The cemetery consists of several parts that are joined by natural micro-landscapes (Figure 6.4). The graves cover an area of around 3 hectares (about 7.5 acres). But the whole territory of the graveyard with spaces in-between the grave groups, covers an area of around 6–7 hectares with quite an unequal micro-landscape. Only a part of it could be restored archaeologically. We can distinguish some separate grave groups and two of them include the separate groups of horse graves. The integrated environment of the graveyard consists of varied details within the micro-landscape and it seems they were used to delineate the local public space – barrows with stone setting, ravines, rivulets and ponds, trees, paths, fireplaces and likewise.

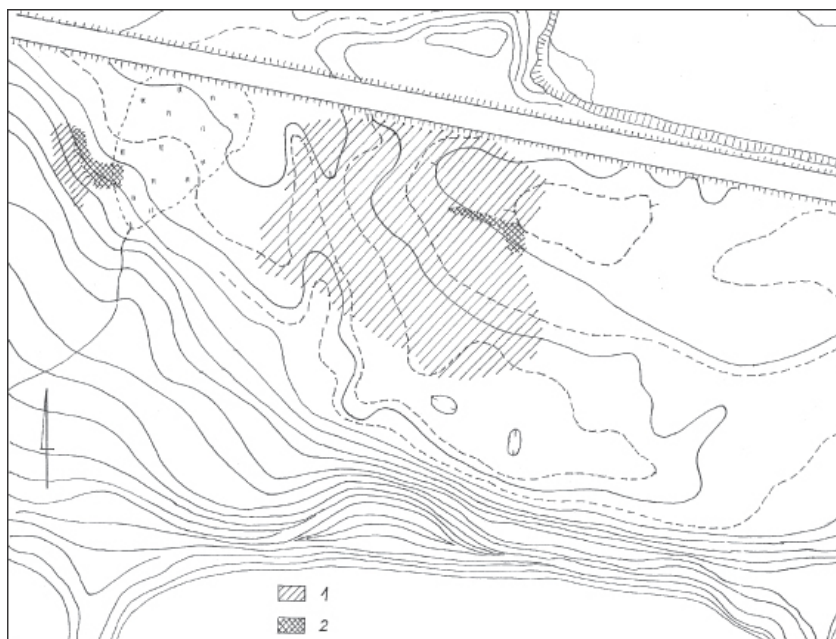


Figure 6.4: The territory of the graveyard covers an area of around 6–7 hectares: 1) inhumations and cremations; 2) horse graves.

An important element of the ritualised behaviour with special performances was devoted to the Sun. Marvelė's location in the landscape as well as the location of other similar graveyards (open spaces, with an open view across the river valley) reveals the important role of the Sun. The archaeological data indicate a special role for the Sun and celestial sphere in Central Lithuania, where mortuary practices very much depended on the movement of the Sun throughout the year (cf. Michelbertas 1986; Jovaiša 1989; Bertašius 2002). Marvelė's situation in the lower part of a wide river-valley indicates quite a relevant location between the confluence of the two biggest regional rivers in the East and lower, watery river part in the West (Figure 6.5). The same situation can be found at the next biggest Central Lithuanian graveyard – Veršvai with its abundance of horse graves. It is situated across the river, opposite Marvelė, in the same position. Both of these burial grounds are situated in the open area. The lower reaches of the river Nemunas (Memel) – from the Baltic coast to Central Lithuania (Kaunas region) – at all times were very importance for the Baltic region. This area can be perceived as a steady contact zone, where traditions, burial rites and styles of social life were created. Sometimes firm connections are reflected in different expressions of behaviour expressed in the archaeological data. The cemeteries are concentrated on that area, close to the stream, and both revealed a large number of buried horses; nearly 500 horse skeletons were identified during archaeological excavations.

communal mortuary practice. Only deeply penetrated historical and social memory with straight memory “cues” like micro-landscapes (hills, rivulets and ponds), sacral fireplaces, repeatable performances and other events could preserve this place from generation to generation (Bertašius 2009b, p. 309).

Some ideas about the links between horses and water can be drawn from ethnological material. There are, for example, stories where mares come from the sea (Šukytė 2006, pp. 12, 14, 38). In Baltic and Northern mythology the horse is often depicted as the sun-carrier. It seems we are recognising the special place for the graveyard, the place closely connected with sunrise and the sunset, water and strong streams (Bertašius 2009b, p. 307).

The horse offering ritual

Usually the burial objects were connected with the system of beliefs. One aspect of this ritual treatment was the grave pit itself. As noted earlier, the grave pit sometimes had an irregular shape, and had been deepened towards its western end (Bertašius and Daugnora 2001, p. 390). It seems that the shape of the pit was associated with the specific nature of the funeral process. During the burial the head of buried animal occurs under the breastbone with the croup positioned higher, quite close to the former burial surface (Figure 6.6) (Bertašius 2009a). By means of the reins and bridle bits it is possible to place a live horse in a pit that has been prepared beforehand. The position of bridle bits *in situ* is suggestive, as they are usually dragged out into one or other side, pointing to a purposeful, fast wrench. That state of buried horses is often verified by the skeleton's position at Marvelė as well as within other graveyards as well. It seems that for the sake of the ritual the horse was subjected to some physical trauma; the position of the second neck vertebra (*axis*) is quite often turned out (at a 45–90° angle) in relation to the first neck vertebra (*atlas*) (Bertašius 2009a, pp. 14, 111). It is impossible to get the upper spine into this position naturally and a strong force complemented with reins and bridle bits would have been necessary to produce this resulting posture. In many cases the horses are found stumbled on the sand in the pit (e.g. Pakalniškiai, Marvelė). Sometimes the horses took a firm stand on their wrist (*carpus*) suggesting they struggled against their forceful burial in the pit. Supposedly, the posture of the skeleton

suggests death throes arising from smothering, and it is likely that the majority of them were buried alive.

Throughout the territory of Balts we find traces of ritualised behaviour with animals as offerings. These animals may have been ridden to exhaustion so that it was easy to push them into the pit. Such practices among medieval Prussians are mentioned in the Chronicle of Prussia by Peter of Dusburg (Batūra 2005). Some authors suppose that it may have been possible that the horses were stunned, poisoned or intoxicated during the ritual (Kontny, Okulicz-Kozaryn, Pietrzak 2009, p. 167), or perhaps starved to put into the pit (Jaskanis, 1966). The special orientation and specific shape of the pit could suggest the performance of some kind of ritual. But it seems that only an exhausted horse could be forced into such a pit. Moreover, the standardised, precise and widespread burial ritual points towards the presence of specially trained practitioners – those who were proficient at controlling the whole performance. The relatively standardised shape, layout and cross-section of the grave pits suggest controlled behaviour during the process of killing the animals. The layout of Marvelė's graveyard supports this notion. In the central part of the graveyard (Figure 6.3) there are two – three rows of horse graves situated between inhumations. They are set up towards the top of the elevation, in the highest part of the graveyard. This positioning could be interpreted as a form of scene-setting for the ritual.



Figure 6.6: Horse graves with complete horse skeletons; horse graves 71 and 72 from Marvelė (photograph by A. Astrauskas).

Among the horse graves there are separate burials of horse heads with forelegs that form part of the buried animals. Usually the graves of that type are situated between the other horse graves. The only exception is where men are found with horses in graves from Western Lithuania near the River Jūra. These graves are dated to the 7th–12th centuries and here horses are accompanied by armed male graves in the lower part of their grave pit (cf. Vaitkunskienė 1981). The special sacral meaning of this type of burial has been confirmed by traditional Lithuanian beliefs, where the horse skull is able to protect against disaster prompting people to keep it at the house (Šukytė 2006, p. 13). Similar material, which must be attributed to Baltic culture, was recently discovered in Poland, in the excavated and archaeologically researched settlement complex with a cult site at Poganowo IV (North East Poland) (Wyczółkowski and Makowiecki 2009, p. 296). The reconstruction of the ritual is as follows: “Bones found in pits, and few concentrations of bones could be interpreted as remains of sacrificed, and then skinned horses. Hide with head and legs in a single piece, was placed on a pole, or tree, and later buried into the ground” (Wyczółkowski and Makowiecki 2009, p. 300). Similar rituals have been discovered at sacrificial places across Eurasia. Matthäus Prätorius, the historian and chronicler writing at the end of the 17th century, wrote about the open air sacrificial place in Lithuania (Samogitia), with a large stone and a hide of a sacrificed animal, a goat in that case, hanging on a high pole (Praetorius 2003, p. 254). Similar treatment is evident in the stories concerning people skinning and hiding in horse carcasses, also a procedure that could protect against disease (Šukytė 2006, p. 27). It seems that the horse and its symbolical epitome (a horse skeleton with its hide and extremities) became the magical medium that helped to protect against disaster. Very characteristic in that case are the above-mentioned horse burials from Western Lithuania, mostly dated to the 9th–11th centuries.

A large group of the horse graves from Marvelė is situated on the plane downhill. It seems they are situated in a small valley where the horse graves are placed on the border, in a shape of a half-bow, making some sort of amphitheatre, with the supposed beholders on the upper part of the slope (Figure 6.7; Bertašius 2009a). Moreover,

an isolated stone pavement measuring c. 2 × 3m in the lower part of this small valley was also discovered. It looks like a special place for a ritual; perhaps functioning as a public killing place. Of course, it is impossible to reconstruct the actual function of this archaeological feature but clearly the pavement is closely related to the horse graves. The data from archaeological investigations and the scarce historical references testifies to a complicated, bloody burying ritual at the grave, as well as a sacrificial feast. It is likely that sacrifices were linked to important occasions that helped to emphasise the cultural identity of the local society. In Central Lithuania there are quite uniform and very expressive horse offering rituals – the burial rites that determined some cultural unity (Bertašius 2006, p. 69; 2009a). The cultural identity and maybe the territorial (and/or even political) unity (= “ethnicity”) was conveyed through a very expressive horse offering ritual, which spread throughout the region (the relatively large number of cemeteries with clear traces of this ritual testify to some expedience in performance). These horse graves could be interpreted as deposits of special value. The open, exposed horse burial places as well as the large quantity of buried animals suggest that the ceremonies, of which these deposits were a part, were public displays rather than private offerings (e.g. Wells 2001, p. 93). Some historical sources refer to such rituals. The Scandinavian Saga of Orvar-Odda tells us about the method used to kill a horse: the stallion was brought near a previously prepared pit, pulled into the pit and buried alive by filling it up with the soil (Ślupecki 2004, p. 102). Tacitus wrote about white horses that were used for magical purposes (Ślupecki 2000, p. 40). Adam von Bremen wrote about human offerings and compared this practice with similar sacrifices of horses and dogs: decapitated people were hanged on the holy tree, animals were treated in the same way as well, and the blood was used during the ceremonies (Ślupecki 2000, p. 43). The chronicler Thietmar Merseburgensis reports about the offering place of Scandinavians (Jedlicki 2005, p. 12): “they were used to gather together every nine years in January and sacrifice 99 people and the same number of horses”. Ultimately the most picturesque impression of a Viking funeral given by Ibn Fadlan may be directly compared with the funeral ceremony in Marvelè (Bertašius and Daugnora 2001, p. 392). In the cemetery at Birka, ritual killing has been identified in the grave from Stengade III on Langeland: “the

forehead of the horse in the grave was crushed, and the position of the skeleton indicates that this happened inside the chamber itself"; in the next grave – the boat grave at Årby (Uppland), a horse and dog were placed in the grave, the horse first received a crushing blow to the forehead and was then decapitated (Gräslund 1980, p. 43).

Amongst many societies there is a rather common attitude to Eternity: the world of dead is separated from the living world by the sea which the deceased must sail across (Anuczin 1890, p. 179). The ship and the horse were the most important religious symbols since the Bronze Age, both being intimately related to myths of the voyage of the Sun; later they both became secularised, being moved from the sphere of religion and rituals into the sphere of warfare (Kaul 2002, p. 16). In this respect, the horse was one of the most significant sacred animals which escorted the dead to Eternity and was coherent within the mythological world. Relatively close semantic relations can be traced between the horse and the Sun among many prehistoric tribes, c.f. Celts, Greeks, Germans, Balts – both the Sun and the horse were mean of accessing the Underworld. The horse in Lithuanian folklore is one of the unusual characters to whom the ability to fly is attributed, but at the same it is the representative of the Chthonik world possessing close links with the Underworld and with Death. In the ancient Lithuanian world-view the mythological lord of the Underworld *Velnias* (the devil) is most often represented with different parts of the horse skeleton, such as the horse's shank, hoof or rib (e.g. Vėlius 1983, p. 105). In turn, according to the mythological stories, objects obtained from mythological beings later transformed into the skeletal parts of horses – an extremity, femur or something similar (Šukytė 2006, p. 31). It seems that the horse burial group which is distinguished by ritual offerings of separate horse parts relates to this idea. Such graves are distinguished by an isolated area with scattered horse remains (Figure 6.8). The burials with scattered horse remains usually contain a skull, neck vertebrae, leg bones and fragments, sometimes with signs of chopping evident on the bone surface (Bertašius 2009a, pp. 14, 112). The horse's skeletal remains are placed in one or more layers (Bertašius and Daugnora 2001, p. 392). The areas where this type of grave is concentrated in separate sections of the cemetery testify to a simultaneous and distinctly original tradition. Such a mode of burial testifies to the presence of

funeral rituals, a long complicated ritual by the grave, with protagonists (the main actors) and additional members, perhaps as audiences. This type of grave is characteristic of some locations in the graveyard at Mavelė. One area covers part of the aforementioned hill; the next group of burials with scattered horse remains occupies the eastern part of the 'amphitheatre', thus exposing probably the last stage of horse offering rituals. The same type of grave is quite common in other Central Lithuanian graveyards with buried horses and forms a significant proportion (17 to nearly 30%) of the total number of horse graves (Bertašius and Daugnora 2001, p. 392).

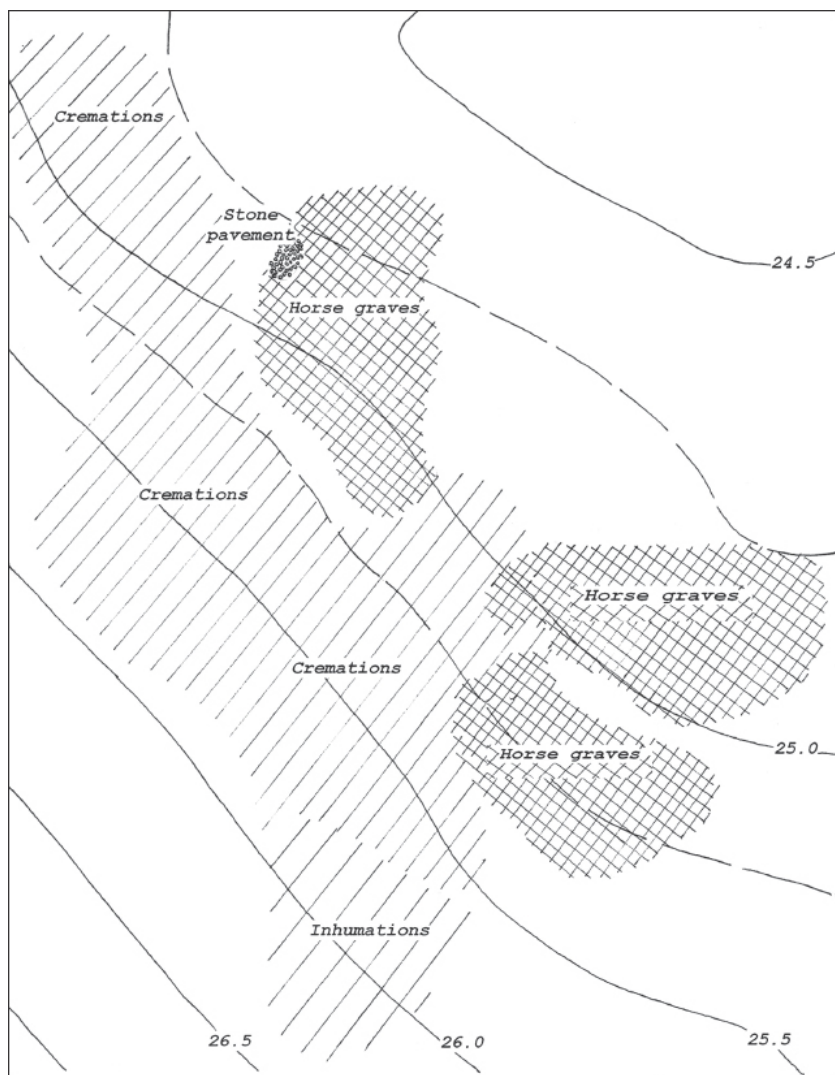


Figure 6.7: The horse graves seem to form some sort of amphitheatre, with the supposed beholders on its upper part (after Bertasius 2009b, p. 310, fig. 5).

We will never be able to reconstruct the details of this bloody ritual; these have been obscured by time. However, drawing on historical sources we can attempt to reconstruct a few glimpses (cf. Ibn Fadlan's description compared with the data from Marvelè: Bertasius and Daugnora 2001, p. 392). Eating horse meat was part of the sacrificial meal that took place near the grave. One indication

could be taken from the Chronicle of Prussia by Peter of Dusburg (Dusburgietis 1985, p. 161) concerning an interesting incident: “there began a tangle over the kettle where the Prussians were used to cook their sanctity as the ritual demands”. The consumption of horseflesh was a ritual meal and was some form of a sacrament to the gods (Ślupecki 2004, p. 103). The Scandinavian *Hervarar Saga* tells us about the horse offering during the *thing*: the horse was brought in front of all the people, then he was chopped into pieces and distributed among the participants, and the sacrificial tree (*blóttre*) was spread with his blood (Ślupecki 2004, p. 103). It is unknown whether the sacrifice was personally offered for the commemoration of the deceased, or if it was an institutionalised offering that happened methodically. Here could be traced one more aspect of this public event: a ritual of temporal death which happens during the shifting of two states, for example during the process of initiation (e.g. Lotman 2004, p. 276f). It is used to associate temporal death with the laceration of flesh, chopping up the body or flesh eating. It could be interpreted as a mythological story as well; the story concerning the gradual crumbling and the final death of the World – dismemberment, torture, eating and burying. Afterwards, resurrection followed, which embodied the fall of Evil. Thus, we can recognise one of the universal motifs of mythological death in the form of laceration and consumption. A significant body of ethnographical data supports this point.

In order to understand the development of this ritual, historical examples could be provided. In the absence of historical sources concerning horse offering rituals in Europe, the history of the horse's reintroduction to America by Spanish explorers reveals how its ritualised treatment developed within a few generations. Though the horse was introduced to America only in the 16th century, it had become a very important animal for North and South American Indians in the 17th century. The horse was used in funerary rituals, it was also buried together with men and its flesh was eaten as a ritual meal (Anuczijn 1890, p. 186.).

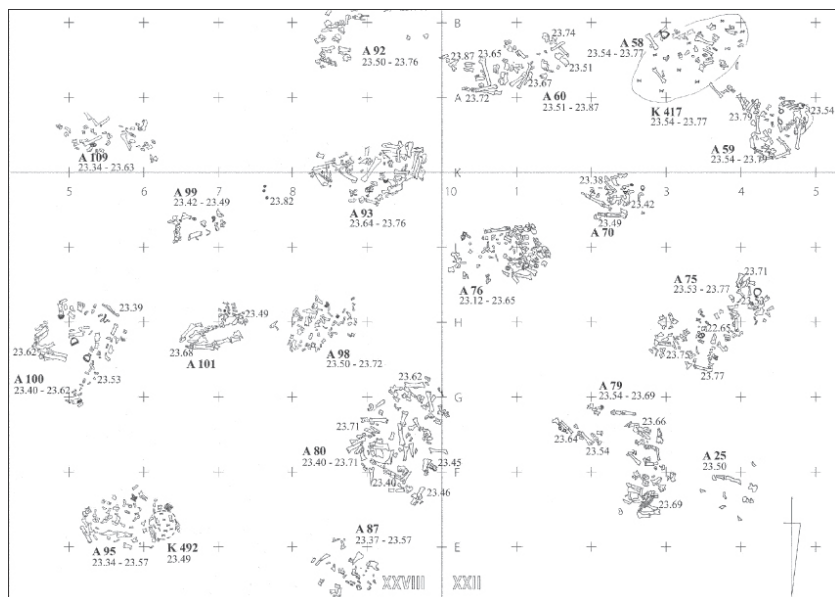


Figure 6.8: The group of horse graves with scattered horse skeletons (after Bertašius 2009a, p. 324, taf. 143).

Conclusion

During comprehensive archaeological investigations it is possible to recognise special social practices in certain areas of the graveyard. They were intended to consolidate contacts between the members of society and to create and expose boundaries. Both graves with individual (or sectional) funeral ceremonies and entire areas of graveyards were used for this purpose. In Central Lithuania in the Viking Age a very uniform and expressive horse offering ritual was used and this determined some cultural unity (Bertašius 2009b). Through the reiteration of rituals new ties were created that bonded the members of the community. An identical perception of symbols consolidated the community resulting in the use of the special area in the graveyard for the arrangement of different events. It could be the downhill slope in the river valley forming some type of 'amphitheatre', where the graveyard (or a part of it) was arranged, or it could be a smooth elevation in the main part of the graveyard, where the site for social events of horse offerings with particular features (such as pits, fireplaces, ditches and others) were arranged.

It seems that during certain rituals in defined places within the

same graveyard, meanings had been created which might form the basis for cultural dialogue. With the standardisation of customs, the choice of place was an instrument for creating memory as well as the mental and emotional attitudes of a family or group member. The objects in the micro-landscape and the objects used by partners in the social event provided communities with a common set of symbols.

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Protohistoric Animal Deposits in the Alps. Considerations about a Dog, a Pig and Four Human Neonates from the Rural Settlement of Gamsen (Valais, Switzerland)

Nicole Reynaud Savioz

Introduction

The site of Gamsen (Valais, Switzerland) was discovered in 1987 during the survey of the future course of the highway A9 and excavated from 1988 to 1999 (Curdy *et al.* 1993). Archaeological investigations were led by two teams, the office ARIA-SA for protohistoric occupations and the office Tera Sàrl for historical occupations. Monographs will be published in the next years.

Gamsen lies in the upper Rhone valley, at an altitude of 670m and at 3km from the city of Brig (Figure 7.1). People had settled at the foot of the Glishorn north-facing slope, on the left bank of the Rhone (Figure 7.2). Because of the total absence of sunshine from November to January and the permanent risk of debris flows coming from the Glishorn, this place seems unfavourable for human established settlement (on the right bank of the Rhone, an escarpment up to a height of 900m makes settlement here impossible). The mountainside is however large enough to establish settlement and to farm. The site is also located on the road of the Simplon Pass and at the crossroads of many transalpine routes connecting the south and the north of Europe. This strategic

situation would explain the durability of the human occupation in this location. The 1.1ha area excavated has indeed brought to light a succession of settlements dating from the Late Bronze Age to the High Middle Ages. Concerning the Iron Age, Gamsen offers a unique opportunity to study the way of life of an Alpine community. Some 180 well-preserved buildings – houses and/or workshops, granaries, cowsheds – have been discovered, making Gamsen a key site for improving our knowledge of protohistoric rural architecture and its evolution in the Alps (Benkert *et al.* 2004; Epiney-Nicoud and Benkert 2011).

The zone concerned within this paper, Waldmatte-East, covers 6000m². Due to a good state of preservation and high resolution chronostratigraphic analysis, its sequence is the most complete of the four zones investigated at Gamsen. From the 38 phases of occupation distinguished, 28 were assigned to the Iron Age, phases 1 to 20 to the Early Iron Age or Hallstatt (Tessin A to C) and 21 to 28 to Late Iron Age or La Tène (Tessin D to LT D2) (Benkert *et al.* 2003; Benkert *et al.* 2011). Human established settlements range from villages to isolated houses (farms). Natural sedimentary processes have been very active on the site. Debris flows and streaming have indeed covered, and so protected, a majority of buildings, typically already abandoned (burned down or damaged).

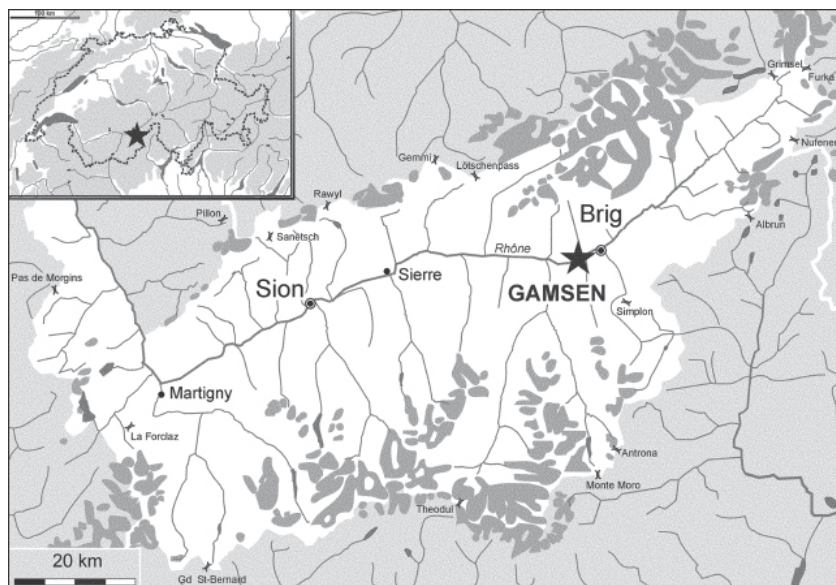


Figure 7.1: The location of the archaeological site of Gamsen (document

ARIA-SA).



Figure 7.2: The site of Gamsen at the foot of the Glishorn north-facing slope (photography ARIA-SA).

Animal deposits

This paper deals with two cases of complete animal deposits belonging to phase-27. Ceramic typology points to an occupation of La Tène D2, c. 80–30 BC. The animals and their anthropogenic treatment will first be described based on archaeological literature, after which the removed skeletons will be considered.

Archaeological context

In the phase-27, two groups, each consisting of three to four buildings situated in the western part of the Waldmatte-East zone, were excavated. Traces of very badly preserved buildings indicate that the hamlet extended to the north. The animal deposits concern a dog (A3418) and a piglet (A2405). They were discovered to the east of the well preserved building BAT61 inside a zone delimited by stone enclosures (Figure 7.3). BAT61 was erected on 139m² of artificially flat ground (C45) and functioned as a home and perhaps also a smith workshop. Inside the stone enclosure four human neonates were discovered buried (T24, T29, T30 and T51). Two fire

pits and pole holes have also been found. This space is presumably linked with BAT61 and it is thought to be an annexe that may have been protected with eaves and a light wall.

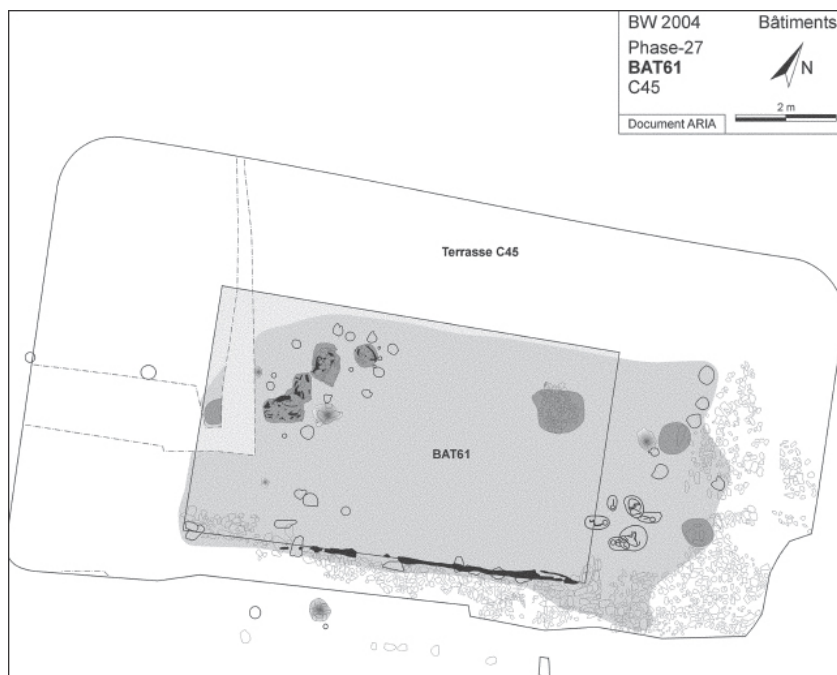


Figure 7.3: Plan of the building BAT61. At the east, the stone enclosure with animals deposits and neonates burials; pig at the north and dog at the south (document ARIA-SA).

The dog

All the anatomical parts of this animal are present (Figure 7.4). Flat bones have degraded more than limb bones having a thick *compacta*, but the general preservation is very good. Even the costal cartilage is well preserved. Neither rodents nor carnivores have had access to the buried dog as no bone has been chewed. Root etching is sparse and very localised. Due to the absence of *baculum* (penis bone), the dog was certainly a female. As the *Crista iliaca* of the pelvis is not fused and the interparietal suture is just beginning to fuse, the dog must be between 2 and 2.5 years old (Barone 1986). At withers height the dog measures 49.6cm (Harcourt 1974).

The way the animal died is difficult to determine. Both the ventral face of the atlas and the entire cranium are not well enough

preserved to see potential anthropogenic marks. A blow on the temporal bone is possible, as the bone displays an ancient break. As no cut marks resulting from evisceration (on the inner side of the ribs), skinning (head and feet), dismemberment and removing flesh were observed, it appears that the dog was buried intact. Anatomical connexions are strict and labile joints are not dislocated, indicating a primary deposit. The dog was laid on its left flank. The legs were strongly bent under the stomach (front leg more strongly than hind legs) and the head rotated through 180°. This rotation is without doubt intentional and was certainly caused when the dog was interred. The small diameter (about 50cm) of the pit is thought to be responsible for the compact position (curled up). The body lies west-east, with the head to the west (but oriented to the east).



Figure 7.4: The dog deposit (A3418) (photography ARIA-SA).

The pig

The skeleton is complete, but anatomical elements are variously

preserved depending on their resistance ([Figure 7.5](#)). The weight of sediment has also contributed to the destruction of the weaker bones. The pig, based on canine tooth morphology, is a male. According to the dental eruption, it is about 6 months old (Habermehl 1975). The lumbar vertebra show that the three parts of the body have not fused, indicating the piglet could be less than 5–6 months old (Barone 1986). On the preserved bones, there are no signs of butchery or burning. The strict connexion of the skeletal elements is indicative of a primary deposit. The piglet was certainly not butchered or processed for meat before being deposited. The piglet was placed on the right flank, with the head to the east. Head and feet lay on the sides of the pit which was too small to allow for the complete body to be laid at the bottom. Some stones surround the pit.

From a taphonomic perspective, the dog and piglet are characterised by identical states and treatment. Quite obviously, both have been deposited whole, as there are no cut marks or signs of burning. The state of the two skeletons indicates that decomposition has probably taken place within the soil.



Figure 7.5: The piglet deposit (A2405) (photography ARIA-SA).

Animal deposits in association with neonate burials

Four neonate burials were also discovered in the same area as the dog and the piglet ([Figure 7.6](#)). The fact that human and animal deposits belong to the same delineated space and were found in a close proximity is indicative of their association. Each animal seems

furthermore linked with one neonatal human in particular: the piglet with burial T29 and the dog with T24. This is shown by their intersected pits. The neonates and the animals have been deposited in pits, directly in the earth and without objects. The passage of time between the deposits of animals and humans is difficult to estimate, but all belong to phase 27, which lasted twenty to fifty years. No neonate burials were discovered inside the building BAT61.

Burials of infants are frequent at Gamsen. In fact, 80 burials have been excavated, 18 belonging to Early Iron Age and 62 to Late Iron Age occupations (Fabre 1994–1995; Fabre 1995). All are primary deposits. Age at death is placed mainly at the end of gestation, but some foetus and infants are also represented. They have been buried inside different types of buildings: house and/or workshops and even, in rare some cases, in cowsheds. Burials are always related to architectural elements. Most frequently, neonates are buried along the inner and dividing walls of buildings, and also, but rarely, at the corners. The four neonates discovered next to building BAT61 belong to a special case, as they have not been buried clearly inside the main house. Nevertheless, two fire pits, indicative of domestic or other activity, are present in this space.

According to V. Fabre (1994–1995; 1995), the fact that the humans belong all to the same age group involves a funerary practise rather than another ritual, of foundation for example. If we accept this point of view, the group of four neonates burials discovered next to BAT61 could be interpreted as a little domestic graveyard. To bury neonates in houses is a worldwide, ancient and present practise. In the Alps, it concerns pre-, protohistoric and Roman sites (e.g. Berger 1993; Langennegger 1996). Two burials, for example, were discovered in a Middle Neolithic house at Sion, in Valais (Winiger 1990).

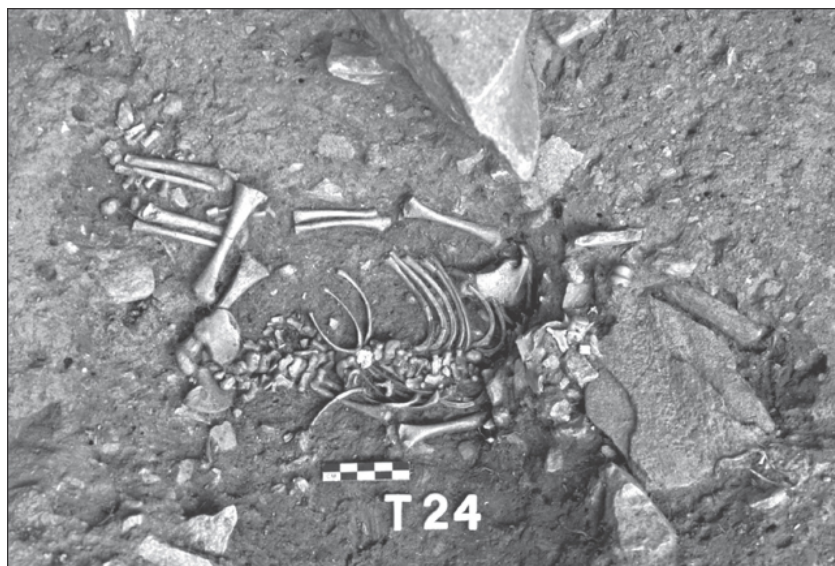


Figure 7.6: Neonate buried (T24) (photography ARIA-SA).

Comparisons

The geographical and chronological range of the association animal-neonate is wide. Published case studies concern many parts of Europe, i.e. Greece, France (Languedoc-Roussillon), Spain (Catalonia) and England (Yorkshire and South-West). Those deposits date from the Early Iron Age to Classical periods. Archaeological contexts and number of individuals, both of human and animal, strongly vary from one case to another. A non exhaustive list of sites already permit us to highlight this great diversity: in the Hellenistic city of Eretria, a well of the Sebasteion contained at least 26 dogs and 19 infants (first half of the 3rd century BC) (Chenal-Velarde 2006); 450 infants and 150 dogs have been found in a well from Kolonos Agoraios (Athens, 2nd century BC) (Shear 1939; Angel 1945); Late Iron Age occupations of Lattes (Hérault) show cases of puppies, complete and partial, and neonates deposited in houses (Fabre 1990; Fabre and Gardeisen 1999); B. Agusti and S. Casellas (1999) associate the deposits of butchered sheep with neonates burials at Illa d'en Reixac (Catalonia, 450–325 BC); in England, Romano-British rural settlements, (Shiptonthorpe, Yorkshire and Silchester North Gate, South-West) and villas have yielded human neonates and animal deposits in close proximity

(e.g. Morris 2008; Scott 1991). Among the animals associated with this practise, the dog is always well represented; sheep (especially in Spain), pig and even some wild animals are also buried. Animals can bear cut marks and/or be partial. The sacred context of the Greek sites and the great number of individuals has lead to a ritual interpretation. Rites of purification associated with childbirth are evoked for the well of Kolonos Agoraios (Little 1999; Snyder 1999). According to I. Chenal-Velarde (2006), the presence of dogs and infants in a well of the Sebasteion is linked with rites that she associates with a wartime/battle event. In a domestic context, and as animals and neonates are always related to architectural elements (walls, doorsteps and corners), Spanish deposits are often interpreted as foundation offerings (Barrial 1989; Sanmarti and Santacana 1992). However, for F. Gusi (1989) the practise is associated with a sowing ritual.

To my knowledge, Gamsen is the only site of the western Alps displaying the association of animal deposits and neonatal burials during the Iron Age. Can we compare this occurrence with the Spanish and English examples, also deriving from a domestic context? How can we interpret this practise?

Interpretations

Are the dog and the pig deposits of a sacrificial nature? Have they been ritually killed? In terms of a strict definition, sacrifice means the slaughtering of a human or an animal being. In addition, the sacrificed individual is seen as an offering to the gods, in the purpose to receive something in exchange (the famous Roman adage *do ut des*). The animal, etymologically made sacred (*sacer facere*), acts as an intermediate between people and gods (e.g. Hubert and Mauss 1899). However a whole animal discovered in a pit does not necessarily have ritual significance. Other reasons, totally unritualistic, e.g. epizootic, can explain the feature. To avoid any interpretative colouring when speaking about animal in connection from archaeological sites, J. D. Hill (1995; 1996) has thereby created the purely descriptive term of “Articulated or Associated Bone Group” (ABG; see also Morris this volume). When cult activity can be clearly related with an animal deposit, there is still the remaining problem of interpretation. Indeed, how can we define the meaning of a ritual in archaeology? To understand the

significance of a ritual through its material aspects is impossible (e.g. Poplin 1989). Protohistoric practises are, furthermore, devoid of (their own) words. Moreover, the deposit is clearly just one step in the ritual which is possible to reconstruct on the basis of the archaeology. But reconstruction is one thing, meaning is another.

The status of dogs and pigs

To propose interpretations concerning the deposits, we should first examine the status of dogs and pigs at Gamsen, and more widely in pre- and historic Europe. Pig and more specifically dog are badly represented in the faunal assemblage. According to H. Sidi Maamar (2001) and the preliminary results of the current archaeozoological analysis, pig forms about the 7% of the determined remains and dog less than 1%. The site has a sheep/goatdominated assemblage. Both pig and dog remains are limited to isolated and fractured bones. Dogs were skinned and cut marks testify to their consumption. However, due to its rarity, it was not commonly used as food. Concerning pigs, they have essentially played an economic role, as they were slaughtered at around 2 years old, i.e. when reaching their optimal weight. The dog and the piglet deposited next to building BAT61 have not been skinned or destined for consumption, as their co-generics were. Alive, both had functioned as a garbage animal, as a greater proportion of bones are chewed and digested. Thus they belong to the village or domestic sphere. In an agropastoral society, dogs have certainly played the role of sheepdog, as well as guard-dog. They could also be helpful for hunting, but wild mammals are extremely rare at Gamsen (there are mainly ibex, chamois, red deer, bear and marmot).

In Indo-European cultures, the dog is clearly associated with the underworld and death (De Grossi Mazzorin and Minniti 2006). In the world above, it officiates as a guard-dog, guide and/or protector, as maybe the most famous mythological exemplar, Cerberus. Occurrences of whole dog deposits coming from domestic, funerary and sacred contexts are common during pre- and historical periods and testify to the special relation between people and the first domesticated animal (e.g. Morey 2006; Wilkens 2006). Complete dogs are very often discovered inside or next to human burials. In the Natufian site of Ein Mallaha (Israel), for example, a puppy had been deposited inside a burial some 12,000 years ago

(Davis and Valla 1978; Tchernov and Valla 1997). In the Alpine area, the *Forum Claudii Vallensium* (Martigny, Valais) has yielded a minimum of 17 puppies deposited between 50 to 150 AD in the corner of a building (Reynaud Savioz and Pignolet 2007).

The symbolic value of pigs is more difficult to express, as they were principally bred for food. Anyway, like every eaten animal, it is not only “good to eat, but also good to think” (Lévi-Strauss 1962). During the Iron Age, pigs are very frequently found in burials, as food offerings, especially in Gaul (e.g. Méniel 2001; 2008).

Animals ritually killed or ritually buried?

As the presence of neonates is most probably related with a funerary practise, the dog and the piglet are certainly also involved in a funerary ritual. However, it does not necessarily mean that the two animals are present for the same reason. The symbolic status of those two animals at Gamsen, but also in a spatially and temporally wider framework, can help to form a hypothesis regarding the kind of ritual. Two main proposals could be put forward: the dog and the pig are either present for the neonates (as accompanying animals, protector or as votive offering) or present for themselves (true burials). Regarding the dog, both hypotheses are appealing. As a protective animal when alive, it could have continued to play this role in death. As an animal enjoying a preferential relation with humans, which gradually leads to a pet relationship, this could also have led to its own burial. According to S. Hamilton-Dyer (1997), the Romano-British cat of Silchester Northgate, for example, has been carefully buried as a pet. As for the pig, its presence is more difficult to interpret. Unlike the dog, it is less common in pre- and historic funerary context. A piglet buried above a human is mentioned at Rodez (Aveyron, end of II–III AD) (Blaizot 2009). A true burial seems, with a contemporary point of view, not appropriate for this animal. But one can imagine that a piglet could induce an attachment. Moreover, pigs are very close to humans with their omnivore diet. People are perhaps not responsible for the death of both dog and pig. In pre- and protohistoric husbandry, perinatal and infantile mortality is common. Animals and neonates share many common points. They were carefully buried, in a pit, directly in full earth, without objects. Taking all these factors –

status, possible natural death and similarity with the neonate treatment – the dog and the pig could have been buried as individuals. On the contrary, if the deposits of the animals have taken place in the burial ceremony of the neonates, the dog and the pig were surely ritually killed. Were the animals selected for slaughter chosen because of their species, sex or age, or all these factors together? It is interesting to note that the dog, the piglet and the neonate are all three harmless beings, the dog while obedient and the piglet while very young.

Animal deposits at Gamsen

At Gamsen, the deposit of complete and nonbutchered animals occurred very rarely, the dog and the pig described in this paper are the only ones, additionally in association with human neonate burials (however we cannot exclude that other cases are present in unexcavated zones). This kind of deposit is even more unusual if we take into account the high number of neonates buried in protohistoric occupation areas (n=80). This practise seems an isolated one linked only with one house. How can we interpret this rarity? Is it a question of preservation? Taphonomic conditions, being good enough to preserve skeletons of neonates, cannot have lead to the destruction of animal bones, furthermore of adult individuals. Is there an economic reason? Was the killing of animals too difficult to support for an Alpine community of agro-pastors? Is it a cultural question? Was this practise imported and not accepted by other members of the community? As the animals have been deposited during the Late Iron Age (LT D2), a Roman influence cannot be excluded. And, finally, could there have been a social reason? Building BAT61 may have belonged to a smith, as remains of metallurgic work have been discovered inside it. This could indicate a possible hierarchy within the community.

Before pursuing this reflection, we first have to finish the current faunal analysis, in particular the partial animal deposits, and to define waste modalities (refuse being sometimes also put in pits). The term “connection” (for articulated skeletons) was however only used 8 times (without the dog and the pig) during the excavation of the protohistoric occupations. The dog and the piglet described in this paper are the only complete and non-butchered buried animals at Gamsen.

Summary

The sample of complete animal deposits, displaying no butchery marks and no signs of burning, is very small for the protohistoric occupations of Gamsen. In fact, only two animals, dated to Late La Tène (LT D2) – a female dog and a male piglet – have been discovered. The dog, the piglet and four human neonates are clearly associated. They have been deposited next to a building, maybe in an annexe. The burial of neonates at Gamsen is most probably linked with a funerary practise. At the present time it is the only occurrence of animal deposits associated with human neonate burials in the western Alps, and it is therefore worthy of mention and description. However, beyond the taphonomic and contextual description of this practise, remains the problem of its interpretation. Two directions, regarding the symbolic value of the animal selected, are suggested. The dog and the piglet are associated with a funerary ritual, either the burial ceremony of neonates required an animal sacrifice, or they have been buried for themselves.

This case study testifies to ritualistic activities inside the domestic space. The frontier between home and sanctuary, between a profane everyday life and the religious field, was certainly not perceptible for Iron Age people. Animals were not only thought of in an economic perspective, but also through a symbolic one. Therefore, one can ask if domestic rituals involved only domestic animals.

Ritual in social systems

The question of meaning will always be without definitive answer in archaeology, we can however mention the function of the ritual (or the religion) in social systems. Many cultural anthropologists, in particular in France, have already tackled this topic. Works of the sociologist F. Durkheim (1912) refer to religion as a social fact whose functions are positive because they spark off and maintain the social cohesion. In the same sense, according to M. Mauss (1950), the ritual acts on social relations by creating links between members of a community. This point of view would make sense for a small Alpine community, whose life was certainly hard, but the described practise is an isolated act. However, as a part of a domestic funerary ritual, the killing or the burial of the dog and the piglet made sense for members of this community.

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Late Antique and Early Medieval Animal Burials in Italy

Frank Salvadori

Introduction

The arrival of the Lombards in Italy marks the sudden rise of the attestations of tombs provided with grave goods, even if this custom was not unknown to the indigenous populations: they practiced it since the remote past and, with subsequent modifications, continued to do until the end of Antiquity (Paroli 2008, p. 203; Reggiani and Rizzi 2007, p. 464). Despite the general consensus amongst researchers in associating this phenomenon with the Lombard settlement, their positions regarding the ethnographic, historical, social and economic implications are very different. The heterogeneity of these opinions seems to result from the diffusion within Medieval Studies of a form of “Europeanist” revisionism (Valenti 2009, p. 26), headed by the success of postprocessualism and in particular of cognitivism. This was a reaction to a tradition of study that came directly from the nationalist archaeologies of the first half of the 20th century, which gave great prominence precisely to the ethnographic aspect of burials. The cognitive revisionism in contrast to the earlier archaeology bases its own beliefs and criticisms on the consideration that such cultural manifestations do not faithfully represent reality: they are instead its distorted reflection, in which the immaterial part of the ritual, and consequently the socio-cultural context that elaborated it, are not visible. In other words, in the grave goods we find objects of a handcrafted production (Byzantine in particular) that are alien to Lombard culture (Von Hessen 1992a, pp. 178–179). The mingling

of such manufactured products and styles invalidates the ethnocentric attribution, and therefore they are to be interpreted only as a set of signs to decode through anthropological and sociological tools (Paroli 2008, p. 203).

The application of socio-anthropological studies to the Migration Period generated “a total reassessment of the Barbarians, in a cultural and not biological sense, as a historical construction: the *ethnogenesis*” (translated from Valenti 2009, pp. 25–27), through which one goes so far as to deny every form of crisis, if not the fall, of the Roman Empire, and the consequent formation of new political and social entities (in discontinuity with the former world) generated by the migration of allochthonous groups or supergroups.

Transformation and transition therefore become the terms through which one describes the passage from Antiquity to the Middle Ages, with the result of representing the Barbarian populations that arrived in Italy as already Romanised: basically the ethnogenesis of the European populations is a cultural process that was generated by the Roman socio-political structures of Late Antiquity (Valenti 2009, pp. 25–26). This historical revisionism has not only permeated medieval research, but also the outlook of classicists, in which there seems to be “even more resistance to accept the idea of a Roman world that experienced a crisis, a decay, a decline” and in which one recently observed the same tendency to use, often inaccurately, terms like crisis, transition and transformation (translated from Lo Cascio 2007, p. 280).

In this interpretative framework, the grave goods are perceived only as forms of social representation, and not as an expression of separation and contrast between Roman and Barbarian or, in other words, of ethnic affiliation. For instance, the fact that male burials have been understood for a long time by the presence of manufactured products relating to soldiering and to the cavalry is interpreted as a mirror of a deeply militarised society, so that it is “normal” for the elites of this period represent themselves in this way (Paroli 2008, pp. 206–207). Consequently, also the female burials – in which one notices a sudden change, from the first decades of the 7th century, with the simplification of ornamental elements – would attest, according to some, to a rapid process of women’s integration into Roman custom and ritual (Von Hessen 1992b, p. 202), while according to others, it reflects a change in the social role of the woman, perhaps even a loss of her importance

within the new Lombard society residing in Italy, or rather, the Romanised society (Paroli 2008, p. 205).

Whatever the position regarding the appearance of a brand new phenomenon in the Late Antique Italian scene, another fact that is ascertained and shared by now in archaeology concerns the evolution of ornaments during the 7th century: they gradually become simpler until they disappear in the 8th century, with a few exceptions such as Colle del Virgolo (BZ) dated to the 8th century (De Marchi 2000, pp. 150–151), being then replaced by shrouds and by much more simple sepulchral structures (Delogu 2008, p. 36; Paroli 2008, pp. 204–208). This is a long process that was described as a product of the Romanisation of the Lombards, and this probably began with their settlement in Pannonia and ended in Italy, where the archaeological evidence of this acculturation seems to be unequivocal (Von Hessen 1992c, p. 222).

Animal burials

Another distinguishing and “innovative” element, in comparison to the Italian funeral scene of the Classical Period, concerns the appearance of contemporaneous burials of men and animals ([Figure 8.1](#)). They were interpreted as a reference to the *status* of knight of the buried man and, in the case of the dogs, to the *status* of hunter. The ritual seems to be limited to the earliest stage of the migration of the Lombards, except for the cemetery of Vicenne, dated to the 7th century (more probably starting from the middle of the 7th century), where ten burials with harnessed horses were discovered (Genito 2001, p. 335). This cemetery would represent an anomaly that is hard to justify “as a simple local habit” (Paroli 2008, p. 205) and at the same time it is difficult to situate it within the process of Romanisation outlined on the basis of the evolution of ornaments. The peculiarity of Vicenne, besides the chronology and the considerable number of contemporaneous burials, is constituted by the mingling of objects produced by the Lombards, the European Avars and the Byzantines (Possenti 2007, p. 310; La Salvia 2007, p. 168; Genito 1997, p. 287), in addition to the fact of being the southernmost site in which these types of burials have been found to date.

According to a survey of the Italian archaeozoological literature, eight burials which include animal remains have been found so far;

six of which are in the north of Italy, while only two are in the centre-south (Figure 8.1). In the north of Italy there are the cemeteries at Collegno (570–640 AD; Bedini 2004), the burial at Bagnatica (Late Antiquity; Fortunati Zuccalà, Di Martino and Di Giancamillo 1995–1997), the cemetery at Sacca di Goito (beginning of the 7th century; Menotti 1994), the cemetery at Povegliano (7th century; Riedel 1995), the burial at Arzignano (5th–6th century; Reggiani and Rizzi 2007), and the cemetery area of San Mauro a Cividale (last third of the 6th century; Riedel 2000). In the south of Italy there are the cemeteries of Nocera Umbra (end of the 6th – beginning of the 7th century; Pasqui and Paribeni 1918; Rupp 1997b) and the aforementioned Vicenne (7th century; Bökönyi 1988).

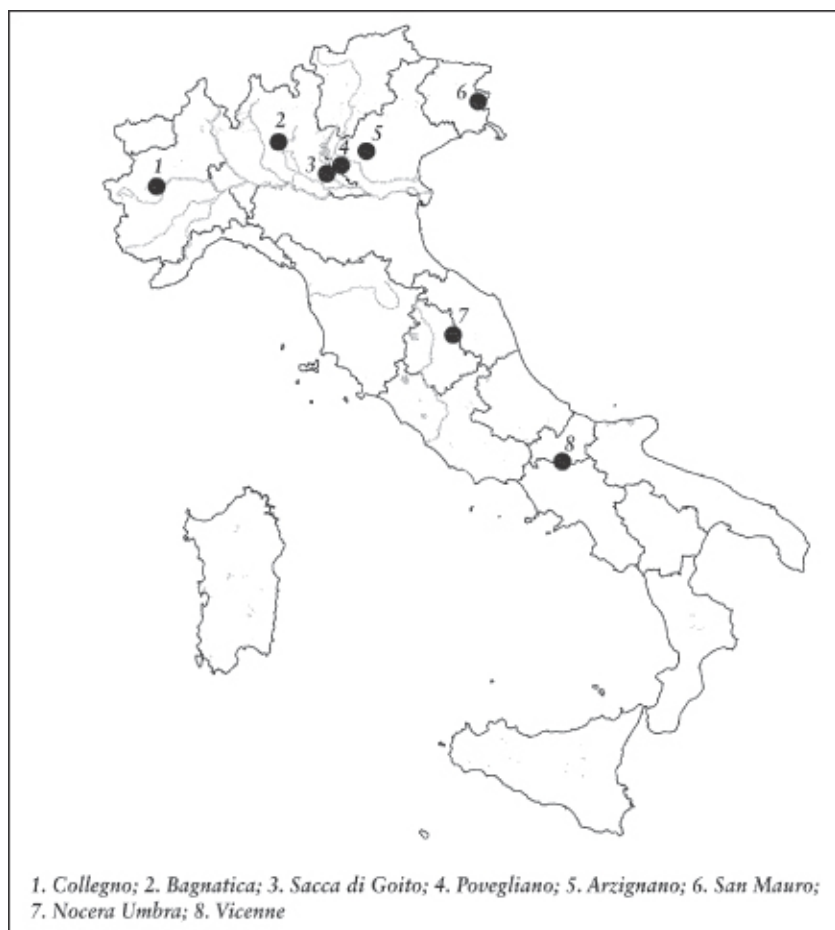


Figure 8.1: Territorial GIS platform (Federico Salzotti, Frank Salvadori LIAAM, University of Siena) showing cemeteries with horse and/or dog burials.

Horses

The horse burials clearly outnumber those of dogs, being attested in seven out of eight cases. Nocera Umbra represents the only cemetery in which the horse is absent: here a dog had been placed in a shallow square grave that was constructed at the foot of a knight's burial (Tomb 42), while Povegliano is the only Italian example in which both animals are present (two dogs in association with a horse; Riedel 1995).

The chronologies are nearly all referable to the early Lombard Period; that is from the last decades of the 6th century until the middle of the 7th century, with the only exceptions of Bagnatica, whose dating seems controversial, and of Arzignano, dated generically as well to the 5th–6th century. In these last cases, it is therefore doubtful whether this is exactly a Late Antique or Lombard attribution.

However, a more relevant chronological accuracy would be decisive to investigate the dynamics of the diffusion of a custom that is traced back to a tradition typical of the Eurasian nomadic world, a tradition that is conceived as an expression of the importance of the horse in the socio-economical context of the pastoral, equestrian nomadism (Genito 1997, p. 286). In this sense, the history of the studies caused the construction of the “Barbarian invasions” model, based on the centrality of the figure of the horse. The migrant groups made the use of the horse their distinguishing feature, by inheriting an ancestral tradition that finds its origins at the end of the 3rd millennium BC, when the first chariot graves began to appear in the East Europe steppes (Cattani 2007, pp. 84–89). During the 1st millennium BC, the chariots would be replaced by new elements of grave goods: saddles in the first place and some time later stirrups and the spurs, attesting therefore to the social success of the figure of the knight (Cattani 2007, p. 89). Basically these are the ornamental elements that we will find in Italy at a much later time and in a very different social context.

In the case of Arzignano, therefore, to ascertain a chronology of the 5th century rather than of the end of the 6th century, would be fundamental to understanding if the appearance of a new cultural

expression or, if one prefers, of a new funeral rite represented by the burials characterised by the contemporary presence of warriors and horses, is to be ascribed to a period preceding the coming of the Lombards. It is no accident that, until now, the only archaeological evidence for the 5th century has been found in the south of Russia and in the Caucasus (Genito 1997, p. 289). Moreover, new questions would arise, namely: is this evidence referable to the phenomenon of “Barbarisation” of the army and/or to the ethnic identity of figures that were connected to the first invasions that hit Italy, precisely in the 5th century?

The conjunction between elements of militarisation and ethnic identity are on the other hand evident in the process of transformation itself, to which the late imperial Roman army was subject. The insertion of substantial contingents of Barbarian mercenaries into the Roman military is a widely attested phenomenon, a solution on which the Roman state increasingly relied on from the 4th century, primarily to defend its own borders, whose control was being increasingly left to the custody of the Barbaric tribes. In the 4th century for example, the Rhenish *limes* was guarded by Frankish, Alamannic and Burgundian contingents. The consequence of these choices led on the one hand to a change in the army’s top elite: at the end of the 4th century the *magistri militum* were nearly all Barbarians; on the other hand it changed in a very remarkable way the structure of the armed forces, with the progressive growth of the role of heavy cavalry (Azzara 2003, pp. 20–24).

At the current state of the research, therefore, it is not possible to limit the phenomenon of the animal burial only to the Lombard Period, even if, in the light of those contexts dated with accuracy, this seems very probable. In any case, leaving the chronologies aside, the barbaric element seems to be undoubted: this evidence completely reverses the prevailing point of view of the last years, because, at least in this case, it is more legitimate to speak of Barbarisation than of Romanisation. The burials themselves are found in territories placed inside and outside the Rhenish and the Danubian *limes*, in Gaul, Noricum and in the Pannonian provinces, seem to push in this direction: dated to the first three decades of the 5th century, they were attributed to high-ranking *foederati* officers of Germanic, Hunnic or Alanic origin, and they are characterised by the mingling of manufactured products of Mediterranean (whose

production seems to come from the *atelier* that were specifically operative for the Barbarian *foederati*) and eastern origins (Possenti 2007, p. 308).

Site	Min (cm)	Max (cm)	Ave (cm)
Verona, courthouse (end of the 6th–7th century)	138	138	138
Invillino (6th–7th century)	143	143	143
Invillino (1st–7th century)	130	144	138
Vicenne (7th century)	135	141	137
Arzignano (5th–6th century)	140	143	142
Collegno (570–640 AD)	143	148	145
San Mauro (end of the 6th century)	137	137	137
Povegliano (7th century)	141	143	141
Rome, Crypta Balbi (7th century)	141	147	144

Table 8.1: Withers of the horses discovered in deposits dating to the 6th–7th century.

The horse burials present in the Italian territory distinguish themselves by four different criteria of interment: intact (Collegno, Bagnatica, San Mauro a Cividale e Vicenne); without the head (Povegliano); composed of the head and autopodia (i.e. hand and foot bones) and tail (Arzignano); only the head (Sacca di Goito).

Starting from this last category, it should be said that it is the only case that has been ascertained in Italy so far, and the absence of the remaining part of the animal was associated with the devastation suffered by the grave, which belongs to the “mortuary house” typology typical of the Pannonian tradition, since its contents were almost entirely removed. But one should not rule out the possibility that the head of the animal was previously introduced and isolated on purpose, since it was found in a side opening of the grave, next to the knight. Moreover, the custom of burying only the skulls of horses is a practice that is known in some cemeteries found in Alamannic territory (southern Germany), in

which several graves with decapitated horses have been discovered, while their respective skulls were inside adjacent burials (Riedel 1995). In conclusion, we are looking at a funeral ritual that was widespread in the east of Europe already from the beginning of the 2nd millennium BC (fig. 6 in Cattani 2007, p. 89) and that lasted until times and up to places which are nearer to the cases that we are considering (Moos-Burgstall and Regensburg in Bavarian territory, Zeusleben in the Merovingian area and, as previously said, in the Alamannic territory of southern Germany (Riedel 1995)).

The funeral ceremonial could therefore count different forms of burial; as regards the partial ones, there seem not to be elements referable to any form of horse meat consumption, even if one detected some signs of slaughter in four out of seven cases. The marks from cutting tools seem to instead be related to the operations of placing the individuals inside the respective graves, except maybe in the case of Bagnatica, where the authors assume there is evidence reflecting an alimentary use. The partial burials, like the one in Arzignano, could suggest an alimentary use too, because only the less valuable anatomical parts were buried, but one should also say that it is a widespread form in many cultural and chronological fields; specifically this seems to develop in Late Antiquity in the border areas of the Empire, by now permanently occupied by some Barbarian groups. In particular, it is widely attested in the so-called “*Opfergruben*” (offering graves) found in the cemetery of Oberwerschen, Mengen and many other places in Continental Europe, in which only the skull and the limbs of the horse were buried (Reggiani and Rizzi 2007, p. 465). In conclusion, the question whether they are sacrifices or offerings remains open.

In all the findings in which it was possible to proceed to the determination of the animal's sex, there is a common element represented by the sexual preference, but it is not the same regarding age. The buried horses, in fact, turned out to be male or gelding, decapitated at different stages of their life (between 3 and a half years and 14 years). By observing the geographical distribution of the age of death, a certain uniformity emerges in the north of Italy, where the cases of Collegno, Bagnatica, Povegliano, Arzignano and San Mauro indicate the presence of adults, but not significantly old individuals, of an age approximately between 4 and a little over 6 years old; while it is only the case of Vicenne that fixes the wider interval, which is represented by a sub-adult

individual (3 years and a half) and an old one (12–14 years old).

The presence of only male individuals seems therefore to be related primarily to a ritual field. This does not mean that stallions and geldings were the only individuals to be used by the cavalry in the execution of the military duties, but they were preferred to fulfil the specifications of the funerary ceremonial. In this sense, the discovered pathologies turn out not to be very indicative, both for the small number of cases and for the different kinds of interpretation that were given. In fact, Vicenne is the only case in which the osteological pathologies of the horse buried in the Tomb 16 were attributed to load-bearing from a rider (Bökönyi 1988), while in Povegliano they were interpreted as a consequence of an intensive use for heavy work rather than as the result of being a saddle animal, even if one can notice pathologies that are similar to the ones of the horse of Vicenne, along the vertebral column in particular; the part of the animal that is subject to more sustained stress when bearing a knight (Riedel 1995). The horses that were discovered were generally described, on the basis of the biometric and osteometric data, as belonging to breeds of medium to high size for the standard of the time; that is they were characterised by withers between 135cm and 148cm. Therefore, they were referable to the western group of horses (Bavarian, Alamannic and Roman), while eastern forms (Avar or Hungarian) have never been recognised.

After all, this is a predictable datum: the allochthonous groups that arrived in Italian territory had certainly been in contact for a long time with forms of horses that were the result of Roman domestication and selection of breeds. Such forms, indicated by the term Roman “military horse”, are the result of a selection that was made since the Early Imperial Age and was protracted until Late Antiquity, and whose most tangible effects are visible in the progressive height growth of these animals (De Grossi Mazzorin 1995). The operations of selection of breeds learned from the Greeks and implemented by the Romans, probably consisted of crossing Italian native forms with eastern breeds. These improved horses were also introduced in the Imperial provinces of Central and Northern Europe, increasing therefore the local equine populations that belonged to more archaic forms, characterised by lower height (for further details about the equine types of the Classical Antiquity and of the Migration Period, found in Central

and Eastern Europe, please refer to Bökönyi 1974, pp. 262–292).

The Barbarian populations, settled inside the borders of the Empire since Late Antiquity, could therefore take possession of such breeds and raise them too. What is more, in the specific case of the Lombards, the written sources attest to the continuous exchange of goods with the Empire, thanks to legation, political agreements and blackmail. In these exchanges we can also count large herds of horses, probably belonging to the same forms that derived from the selections made during Classical Antiquity. This is, for instance, the case mentioned by Cassiodorus, which occurred at the beginning of the 6th century: the call for an intervention from the Lombards settled in Pannonia to the Emperor Justinian I, in order to fight the Gepids settled along the banks of the Tisza River. The Emperor answered the request by sending 10,000 horses to King Audoin (De Marchi 2000, p. 144).

But, by comparing the details of the biometric and osteometric data more, we notice a conflicting aspect in contrast with what has been outlined so far, represented by the case of Vicenne. This is the ratio between the values of the withers and the slenderness ratio of the metacarpal (of which we have a large body of data on a national scale) of horses that were found in different geographical and chronological contexts, both in Italy and in Eastern Europe (Figure 8.2).

According to what was published by Bökönyi (Bökönyi 1974, pp. 267–292), the horses of Vicenne are to be placed in the typical area of the eastern equine forms of the Migration Period, and not within the western category (Bökönyi 2001, p. 342), while the individuals of Arzignano and Povegliano are to be placed undoubtedly within the western forms, as proved by the Late Antique, and therefore chronologically close, deposits in Aquileia (2nd–5th century; Riedel 1994a) and in the villa at S. Giacomo (beginning of the 5th century; Albarella 1990 and 1993).

If we consider the geographical position itself, Vicenne therefore represents an anomalous case, since it is the southernmost necropolis with the presence of buried animals that has been found in Italy so far; that is to say the farthest from the northeast of Italy, from the entrance through which the Barbarian populations repeatedly arrived in Italy. In this sense, the horse found at the late antique *castra* of Invillino (unfortunately the deposit was generically dated to the 1st–7th century), not by chance located

close to the above-mentioned entrance, seems to suggest perhaps the existence of exchanges between East and West, because the proportions of the limbs are more similar to eastern than to western forms (Figure 8.2).

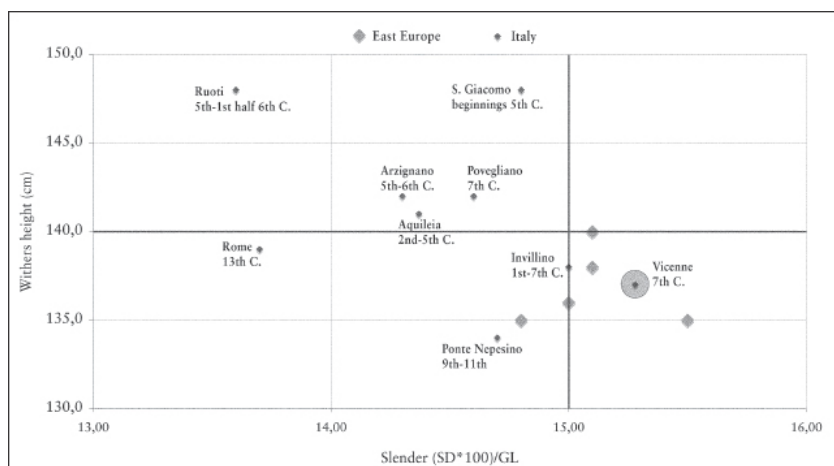


Figure 8.2: Biometric (withers) and osteometric (slenderness ratio) correlations between Italian and Eastern European horses found in Avar and Slavic cemeteries.

The cemetery of Vicenne is characterised by other elements, concerning the material culture, which deserve to be considered in the light of what has just been explained. First of all, as already mentioned, this is the only cemetery area in which ten horse burials were discovered, while in the rest of Italy only one burial per cemetery is attested. In the second place, some of the objects that were found, such as the silver earrings (Ceglia 2000, p. 215, cat. 6) and the iron stirrups typical of the Early Avar Period (apple shape, broad support, tubular and quadrangular section; for further details, please refer to the catalogue entry edited by Bruno Genito in Menis 1992, pp. 198, 201, cat. IV.83; for the type and the diffusion of the stirrup, please refer to La Salvia 2007 and the cited bibliography), were attributed to Avar craftsmanship; those being the areas in which these manufactured products more often find relevant comparisons. All of this evidence (biometric, onthogenetic, geographic, quantitative and artefactual) lead to suggestions of the presence of an allochthonous group that was maybe different from the Lombards, or perhaps it would be better to say, using a concept

formalised by Peter Heather, that formed a supergroup with the Lombards (Heather 2008).

Besides, the proof of the presence of groups coming from the Eastern Europe right into the territories next to the cemetery, is in the written documentation itself. In fact, there we read of a Bulgarian duke called Altzek who descended on Italy with his tribe and surrendered to Grimoald, the duke of Benevento (663–665 AD), who took him under his service by appointing him *gastald* with judicial and military functions in the area of Sepino, Boiano and Isernia (De Marchi 2000, p. 146). The chronological overlap between the event mentioned in the documents and the recent chronological reassessment of the cemetery at Vicenne, dated from the middle of the 7th century, is certainly noteworthy.

Nonetheless, the aim of this deductive path is not to identify the figures mentioned in the documents with buried individuals, but rather to discuss how the different types of sources that we have just presented – the zoological, archaeological and written documents – lead to a reassessment of the phenomenon of the contemporaneous burials of armed men and animals. In other words, they unequivocally represent in the Late Antique and early medieval Italian scene the material traces of a cultural manifestation that has primarily ethnic features, alien to the Greco-Roman tradition.

To summarise what we have discussed so far, we can identify three important points: firstly, the burials with an accurate chronology of the deposit are all limited to the Early Lombard Period, namely from the period of the migration and settlement on the territory of armed contingents, except perhaps for Vicenne (Figure 8.3); secondly, the ceremonial aspect of the burials, indicated by an element that is common to all the contexts, represented by the use of only males; thirdly, the peculiar case of Vicenne, in which the presence of an allochthonous group coming from Eastern Europe seems to be attested by manufactured products of Avar production (jewels and stirrups), the written sources, the number of burials and the osteometric data of the limbs of the horses, similar to eastern forms.

These elements lead to an interpretation of limiting this phenomenon, as has already been done in the past, only to the barbaric sphere. More precisely, regarding Italy, it is perhaps possible to speak of a Lombard, or of the Lombard Period, cultural

manifestation. We have not said anything new so far, but the most important aspect is precisely the fact that by limiting such manifestations to an ethnic field, we can assert the validity of the concept of ethnicity itself, or, if you prefer, of group identity.

By resuming the stimuli resulting from the historiographical debate concerning the role, whether actual or not, played by the Germanic and Western groups in the reconstitution of the social, political, economic and settlement life of Italy, after the fall (if admitted) of the Roman Empire, the cases discussed show how in this particular ritual Romanisation is a concept that is completely jarring, because it does not exist archaeologically, at least in the case of Italy but the same seems to be valid also for the rest of Europe with any example attributable to a specifically Roman context.

This means that the debate concerning the Age of Transition, whether it is supported by a continuist position or, on the contrary, by a discontinuist one, cannot ignore the zoological evidence, which seem to support the idea of break, or of clear change in comparison with the past, at least as regarding a cultural manifestation such as this new form of expression of the relationship between man and death.

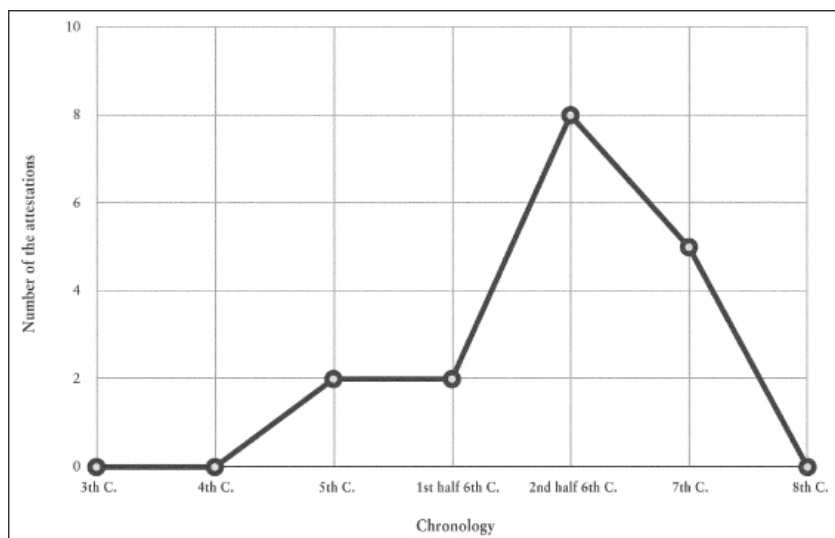


Figure 8.3: The diachronic distribution of known animal burials.

Dogs

As it has already been mentioned in the first part of this article, not only the horses, but also the dogs appear in the “Barbarian” interment areas. For the time being, there are only two ascertained cases in Italy, both dated to the Lombard Period, respectively Nocera Umbra (end of the 6th–beginning of the 7th century), where the dog is the only buried animal, as already specified earlier (Pasqui and Paribeni 1918; Rupp 1997b), and Povegliano (7th century) where, next to the horse, two individuals of different sexes and of young age were found (Riedel 1995).

Both cases have common features insofar as the animals were very large-sized (63–64cm for Povegliano) and in having been buried intact. The elevated height and the osteological ratios were compared to big, and at the same time slender, hunting dogs; imputable to breeds similar to greyhounds. As regards Povegliano, this comparison was justified by discussing the biometric data – the proportions between some measurements of the skull (tab. on p. 63) are very similar to the present deerhound, while the proportions of the long bones (tab. on p. 64) are similar to the generic greyhound, even if they do not perfectly match (Riedel 1995) – while for Nocera Umbra one proposed an approximate evaluation simply through generic comparison with Continental Europe.

Dog burials are less frequent than those of horses, not only in Italy but also in Europe. They were discovered in Zeusleben (Schweinfurt), i.e. in the Bavaria of the Merovingian Period (6th–7th century), where a large-sized dog lay between two decapitated horses. In eastern Germany (5th–6th century) different dog burials are known, both in association with horses and with men (Riedel 1995). Dogs, unlike horses, were also found inside graves attributed to lower-class people, and not only in the graves of rich people connected to the cavalry and devoted to the hunting. But only one case, found near the necropolis of Schretzheim, has been attested so far; moreover, it would be interesting to know the biometric data of the animal (mentions in Rupp 1997b).

In fact, the question of the biometric attribution to the aptitude of the animal for hunting remains open, because this approach seems partially influenced by a sort of determinism generated by the written and iconographic sources. The fact that they are slender individuals is undoubted (at least regarding Povegliano), but this does not exclude their use in a fundamental economic sector such as breeding, and therefore in other tasks such as guarding livestock.

Besides, evidence of the importance of breeding is conserved in the grave goods themselves, also in the rich assemblages, in which related tools are often present, among which the shears were presumably also used in operations such as pelt shearing. This was an activity that allowed this society, too often described as semi-nomadic and therefore with a remarkable aptitude for breeding, to obtain raw materials (in this case the wool), necessary to produce fabrics. It is necessary in the future to integrate information from manufactured products and ecofacts to shed new light on the material culture of the allochthonous populations that settled in Italy between the end of Late Antiquity and the beginning of the early Middle Ages.

Regarding hunting, for example, this integration of evidence could be helpful to understand the actual social importance of such an activity, perhaps by partially reassessing the widely shared opinion of its broad diffusion at every social level during the Early Middle Ages, in the same way that food and butchered animal remains found in the early medieval villages are prompting a new understanding of social differentiation in wild animal exploitation (Valenti and Salvadori 2007; Salvadori 2010, pp. 353–360). But, at the same time, they could represent the material evidence of social prerogatives that would find their origins in habits that were already settled in these populations, as the dogs found in the aforementioned cemeteries seem to suggest.

The osteometry and biometry of the dogs are certainly effective tools for investigating some aspects linked to the lifestyle of the people, aspects that are typically the pursuit of cognitive archaeology. Self-representation of individuals inside a society and expressions of the complexity of urban communities, seem to account for the wide variety of breeds that is present in the Late Antique levels of Italian towns, especially when compared with rural settlements (Salvadori 2009–2010). Therefore, if we go back to the concepts of Romanisation and acculturation, we would expect to find traces of such a typical Roman manifestation (or at least typical of the petulant urban communities) also in the deposits of the Lombard Period, especially the ones that can be linked to some rich/high status individuals that were so committed, according to some, to acquire the status of Roman citizens. But in fact this does not happen: the few osteometric references published so far do not reveal any variety of canine breeds, and therefore it

seems probable that this custom did not influence the Lombard culture as much, and least of all its elites.

Conclusion

In conclusion, if one wants to talk about acculturation, especially from a cognitive point of view, it is then necessary to consider this concept in all its facets, and therefore also in those aspects of a society that are more specifically ludic. This means to take into account interactions between human communities and the animal kingdom; interactions that change and evolve over time. In this sense, the biometric characteristics of the dogs represent evidence that is once again ascribable to a moment of caesura, of change, of interruption between the new *barbaritas* and the old *romanitas*.

Clearly, the number of contemporaneous burials of animals and men is fairly small when compared to the amount of cemeteries that have been found in Italy so far (Vollono 2007–2008 and 2009–2010). Such a difference is determined by a series of heterogeneous factors, among which one of the most influential is the state of the research itself. Emergency excavations, together with findings that have not been published or have not been studied and therefore are not mentioned, limit the knowledge of the phenomenon. Were these kinds of burials practiced in all the cemeteries? Currently, it is not possible to answer this question, especially as not all the cemeteries have been completely investigated. In fact, we often have to make do with limited research, only really surveys, which do not consider all the evidence that is necessary to verify similarities as well as differences amongst the areas where the Lombards settled. In any case, it is a sample that provides a model which can be tested in the future to try to understand its origins: the discrepancy between the numerous burials in Vicenne, in which are evident the signs of an allochthonous group that presents original traits in comparison with the rest of the national scene, and the single attestations from the other contexts. Could it be a matter of a group of warriors in one case, while in the others we can perhaps detect the signs of a more complex social organisation? This is certainly a hypothesis to take into consideration and to be investigated, but we cannot give a satisfactory answer to it at present.

It will be therefore necessary in the future to make archaeologists aware of these themes, by encouraging the archaeozoological study

of these particular forms of burial and by recovering, at the same time, the materials and documentation of the cemeteries that have been investigated in the past, but that have never been subjected to a systematic study and therefore have never been published. The evidence that has been gathered so far seems in any case to be promising: the caesura between the Greco-Roman cultural field and the more properly Barbaric one seems unequivocal, although there are still many questions concerning the way in which this phenomenon carried on within Lombard society.

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Distinct from the Everyday and Beyond Counting Calories: Animal Bones from “Ritual Spaces” in Late Neolithic Settlements at Lake Constance and in Upper Suebia

Karlheinz Steppan

“I am thinking of aurochs and angels, the secret of durable pigments, prophetic sonnets, the refuge of art. And this is the only immortality you and I may share, my Lolita.” (Vladimir Nabokov)

Introduction

Nabokov’s thoughts of “aurochs”, “durable pigments” and the “refuge of art” may well point to the famous prehistoric paintings in the caves of Lascaux (discovered in 1940 and opened to the public in 1948). Certainly, caves represent an early natural setting for ritual spaces that never lost their fascination for humans. In recent years, other types of ritual spaces in prehistory have become the subject of archaeological investigation such as the ones investigated here, located in houses. These date to the early 4th millennium BC and are associated with a recurring unique combination of features.

This paper is part of the research project ‘Archaeology and biology of Neolithic horses in the Alpine Foreland’.¹ The aim of this project was to document the geographical distribution of equids by revising older faunal collections and by analysing new samples applying standard archaeozoological procedures. In addition,

special attention was paid to comparative osteomorphology, ancient DNA analyses, size variation and more accurate age determination using dental cementum analyses (Metzger *et al.* 2009; Greenfield and Steppan in prep.).

Two of the examined assemblages both stemming from settlements – Reute-Schorrenried (Mainberger 1998) near Bad Waldsee in Upper Suebia and Ludwigshafen-Seehalde (Schlichtherle 2006) at Lake Constance – yielded the spectacular and well preserved remains of houses, which were subsequently interpreted as ritual or communal houses. The identifying features of these houses are mural applications of naturalistically shaped human breasts. Furthermore, at Ludwigshafen-Seehalde pieces of daub with chalky white paintings, special textiles and an anthropomorphic vessel complete the inventory of the site.

In his 2006 paper on the meaning and function of the ritual houses, Helmut Schlichtherle stresses the symbolic dimension of an aurochs horn core which is supposed to have been deliberately deposited within one of the proposed ritual houses. The aforementioned horn core was positively identified as stemming from a male aurochs, *Bos primigenius* (Bojanus, 1827) but was found at a third ritual house. It was discovered at the lakeside settlement of Sipplingen-Osthafen (UNESCO World Heritage Site) (Schlichtherle 2006, pp. 138–140) and situated only a few kilometres from Ludwigshafen-Seehalde. The associated animal bone assemblage will not be discussed in this paper as it has not been fully analysed yet. Considering the range of ethnozoological studies providing evidence for a multitude of animal species used during rituals, the question then arises whether aurochs could have been the exclusive species of ritual importance during the Late Neolithic or if there were other species included within the ritual sphere.

It is the aim of this paper to present the results of the zooarchaeological analyses and the related taphonomic considerations of Reute-Schorrenried and Ludwigshafen-Seehalde, thus making these data accessible and enabling a more comprehensive interpretation of the postulated ritual houses. Furthermore, the aim is to discern from the assemblages of both house sites whether specific species can be considered of ritual importance using a set of definitions derived from Muir and Driver's (2004) paper based on archaeozoological and ethnographic data.

Methods and critical assessment of sources

The great chronological distance to the Late Neolithic inhibits any integration of written sources as can often successfully be done for the historical period. Therefore the assessment of any potential ritual meaning of the various animal species must solely be inferred from the zooarchaeological data available. Yet, the scientific community agrees that from the bones themselves unambiguous results cannot be deduced and only broader approaches provide a better understanding of past human behaviour (O' Day *et al.* 2004).

Previous discussions of Late Neolithic animal bone assemblages and their potential ritual context from south-western German sites have had only little evidence to base their interpretation on. Before the discovery of the 'ritual houses', single animal bones or skeletons deposited in enclosure ditches or graves only yielded scarce and ambivalent evidence for their probable usage in ritual activities (Steppan 2002). The diagnostic features of the 'ritual houses' investigated here are their unique location among the contemporary house sites and their internal mural applications of naturalistically shaped human breasts. At Reute-Schorrenried these daub/mud applications were not recognised during excavation but only discovered years later on inspection of the artefact containing boxes.

It appears very likely that these buildings were used as spaces for common but otherwise unspecified ritual activities. In this paper and in support of this proposition I will draw on Roy A. Rappaport's (1999, p. 24) broad definition of the term 'ritual' as "the performance of more or less invariant sequences of formal acts and utterances not entirely encoded by the performers." This definition is particularly useful for archaeologists because of the premise that the iteration of more or less unmodified activities can leave recognisable traces in the archaeological record – as far as preservable artefacts are involved. At the same time the definition allows us to examine the phenomenon of rituals on a general level without moving into too much detail which the archaeological record cannot provide.

Schlichtherle (2006, p. 141) argues that the archaeological assemblages of the two buildings reflect their use for both ritual as well as ordinary living spaces. However, he also points out that his interpretation could possibly be skewed due to potential contamination of the original ritual assemblages by refuse from

neighbouring house deposits. Due to small-scale excavations in Ludwigshafen-Seehalde and Sipplingen-Osthafen this important source of bias may solely be considered for Reute-Schorrenried. Facing this complex situation the question then arises of how 'common refuse' may be distinguished from 'ritual refuse'. In answer to this the methodological approach used by Robert J. Muir and Jonathan C. Driver in their 2004 paper 'Identifying ritual use of animals in the northern American Southwest' is presented here. In their paper Muir and Driver discuss the topic of the relationship between faunal remains, their spatial distribution and possible role in ceremonial life in great detail drawing on an opulent data base. The most important result of their investigation is "that the scale and nature of ritual activities are strongly correlated with changes in the settlement patterns" (Muir and Driver 2004, p. 128). Aside from the consistent attention to a site's context the most important feature of this approach to identifying ritual meaning using zooarchaeological deposits is their categorisation into "three general types of deposits":

- "Common refuse" refers to animal remains which are the product of daily subsistence activities and often mixed in with other domestic refuse and deposited in typical refuse zones e.g. in abandoned structures.
- "Ritual interments" are the direct physical consequence of ritual activities. This category consists of virtually complete skeletons, unprocessed articulated elements, unusual groups of associated skeletal elements or isolated crania. Deposited in certain locations or especially prepared cavities and often accompanied by grave goods "ritual interments" are often easily recognizable during excavation (cf. Morris this volume).
- "Ritual refuse" describes animal remains lost or discarded after their ritual use. Such evidence may only occasionally be identified during the excavation process.

Muir and Driver acknowledge the nature of these three general types of deposits as "idealized constructs" and emphasise "that in reality these deposits may be distorted, overlapping, or mixed in the archaeological record" (Muir and Driver 2004, p. 131). In the following the author attempts to categorise the animal remains from the 'ritual houses' at Reute-Schorrenried and Ludwigshafen-Seehalde accordingly in order to "distinguish deposits that are the

result of ritual activities from those that are the result of more mundane and utilitarian human behaviour” (Muir and Driver 2004, 131). If certain animal species were actually involved in ritual activities the regular occurrence of their preservable remains within these ritual spaces should be expected according to Rappaport’s definition (1999, p. 24) of a ‘ritual’.

Results

Reute-Schorrenried

The site of Reute-Schorrenried lies east of Lake Constance in the hilly landscape of Upper Suebia which has been shaped by the pleistocene glaciers covering the Alpine Foreland. Today, the centre of the former Neolithic settlement is situated on a slight elevation surrounded by peat bog. Discovered in 1934, large scale excavations were launched in the early 1980s to investigate the intrasite spatial organisation of the former lakeside village. The excavation focussed on two marginal settlement areas in the northern and southern parts of the surrounding depressions (“Nordufer” and “Südufer” respectively). Mainberger (1998) presents the results of the archaeological investigations together with several contributions from the natural sciences in a monograph (at the time of publishing archaeozoological results were not available (Mainberger 1998, p. 14 Anm. 19 u. 21).

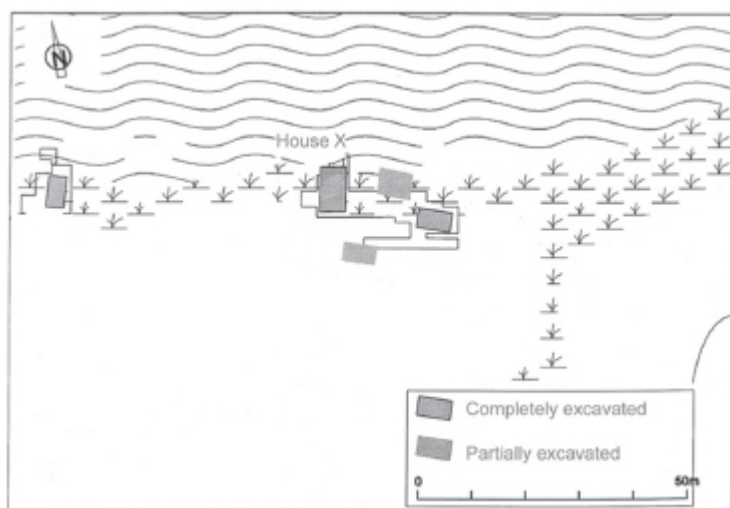


Figure 9.1: Reute-Schorrenried. The dwellings in the northern section of the settlement (Mainberger 1998, fig. 128).

Under the heading of “Kultbau’ in Fl 4?” (“Ritual space in Area 4?”) Mainberger (1998, p. 104) writes: “Against the overall trend the building in Area 4 most likely faced north and seems to have been larger than all other neighbouring houses (Figure 9.1). With one row of ridge posts and the parallel alignment of external posts it resembles ‘House I’ and ‘House VII’ and might be reconstructed as rectangular building with a pitched roof (Figure 9.2).” According to the dendrochronological analyses by A. Billamboz (1998a, p. 377) the oak timber used in combination with ash posts for this building was cut in two years, namely in 3736 and 3735 BC. Mainberger (1998, p. 98) noted that its special purpose did not become apparent until years after the excavation. It was during an examination of stored daub fragments that some pieces could be refitted into two life-size naturalistically formed breasts. From their position in the archaeological record it may be convincingly argued that the breasts were originally attached to the wall as a pair (Figure 9.3).

Immediately north of their position a small-scale accumulation of animal remains was observed, while only few further bones were found scattered over the remaining floor area (Figure 9.3). The bones were associated with pottery fragments, lithic and wooden artefacts. During the excavation of this area the deposits did not display a single attribute which would make them fit into the category ‘Ritual interment’. Therefore, the bones as a whole are preliminarily assumed to belong to the category ‘Common refuse’ (Steppan 2010). The potential floor of ‘House X’ (Figure 9.3: see area highlighted in grey) yielded 246 animal bones with a total weight of 6.2 kg. The absolute and relative abundance of the identified specimens are compiled in Table 9.1.

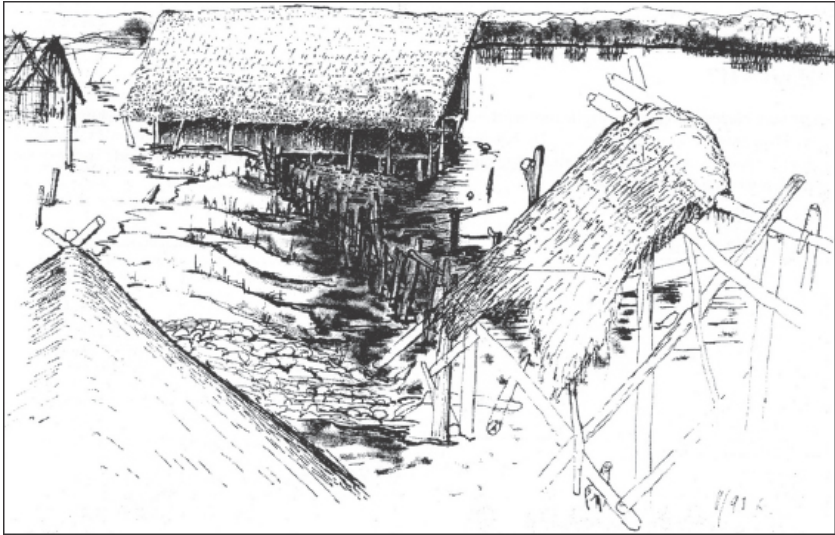


Figure 9.2: Reute-Schorrenried. Proposal for the reconstruction of “House X” (Mainberger 1998, fig. 58).

	NISP	NISP %	NISP %	Weight (g)	Weight %	Weight %	Weight Ø (g)
Unidentified, no size estimation	10	4.27		17	0.32		1.70
Unidentified, sheep size	3	1.28		5	0.09		1.67
Unidentified, pig size	9	3.85		27	0.51		3.00
Unidentified, cattle or red deer size	36	15.38		420	7.93		11.67
Unidentified Total	58	24.79		469	8.85		8.09
Hare							
Brown bear							
Wild boar	9	3.85	5.11	333	6.29	6.90	37.00
Red deer	6	2.56	3.41	154	2.91	3.19	25.67
Roe deer	3	1.28	1.70	70	1.32	1.45	23.33
Aurochs							
Bison							
Wild mammals Total	18	7.69	10.23	557	10.52	11.54	30.94
Wild boar or pig	2	0.85	1.14	34	0.64	0.70	17.00
Aurochs or cattle							
Big wild or domestic ruminants	17	7.26	9.66	154	2.91	3.19	9.06
Small wild or domestic ruminants	2	0.85	1.14	7	0.13	0.14	3.50
Wild or domestic horse	35	14.96	19.89	1394	26.32	28.87	39.83
Aurochs or bison	4	1.71	2.27	420	7.93	8.70	105.00
Wild or domestic mammals Total	60	25.64	34.09	2009	37.93	41.61	33.48
Dog	1	0.43	0.57	2	0.04	0.04	2.00
Pig	44	18.80	25.00	526	9.93	10.89	11.95
Cattle	51	21.79	28.98	1711	32.30	35.44	33.55
Sheep							
Sheep or goat	2	0.85	1.14	23	0.43	0.48	11.50
Goat							
Domestic mammals Total	98	41.88	55.68	2262	42.70	46.85	23.08
Identified Total	176	75.21	100.00	4828	91.15	100.00	27.43
Total	234	100.00		5297	100.00		22.64
Red deer (shed antler)	7			870			
Roe deer (shed antler)	1			12			
Birds	1						
Reptiles	2						
Amphibians	1						
TOTAL	246			6179			

Table 9.1: Reute-Schorrenried, Area 4. NISP and weight of identified species.

The large-scale excavations in Reute-Schorrenried offer the unique opportunity for a quantitative comparison of the animal remains from a ritual house (House X) and the neighbouring buildings. In order to postulate the regular usage of certain animal species in ritual activities the relative weight proportions of all species found in a sample will be examined. Firstly, by simply plotting the weight proportions in a graph, then by calculating Spearman's rank correlation coefficient r_s . [Figure 9.4](#) displays the weight proportions of mammal species identified in both assemblages. Both polylines (light grey: Area 4, black: remaining areas) run almost parallel. In regard to this parameter (weight) there seems to be no remarkable difference between both samples. This visual estimate was tested against using Spearman's rank correlation coefficient r_s which was calculated for the weight proportions of the mammal species under consideration (Lorenz 1984, p. 63).

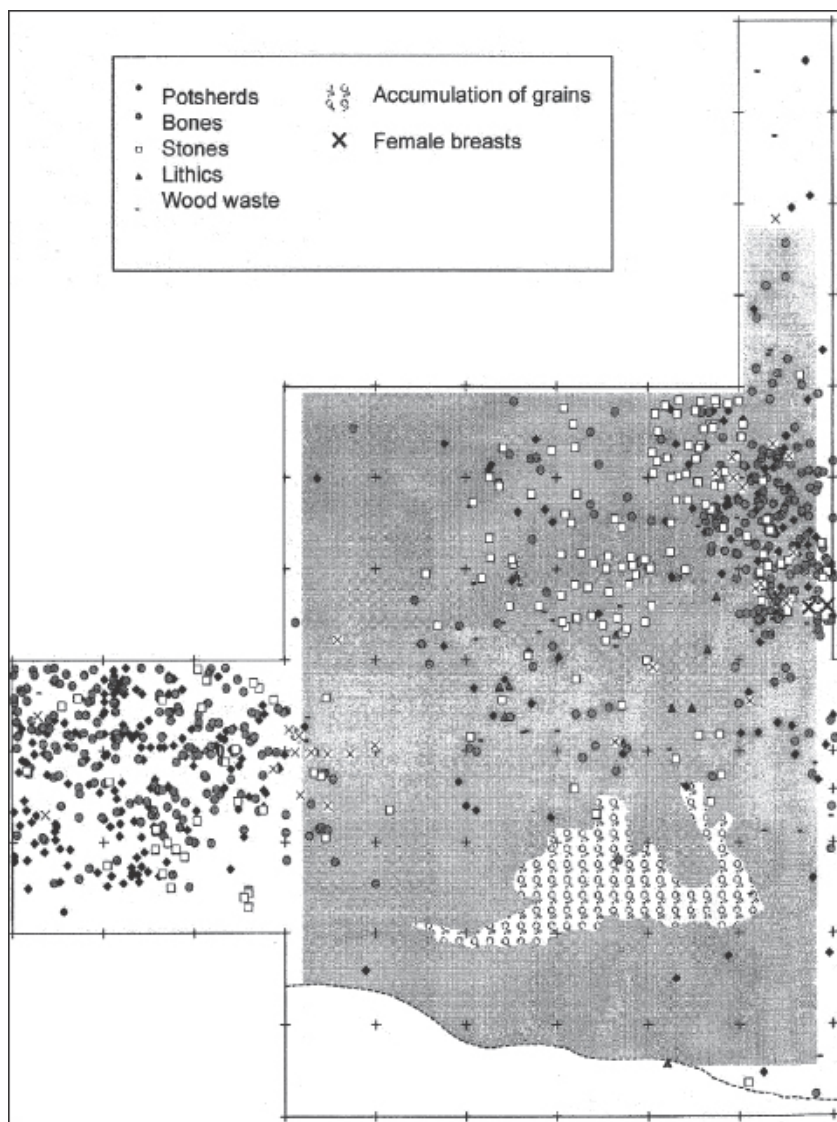


Figure 9.3: Reute-Schorrenried. The distribution of artifacts in Area 4. The area shaded in grey delimits the potential outline of the building (Mainberger 1998, fig. 119).

In a first step the mammal species of both samples are sorted by their weight proportions in ascending order. The rank of each of the twelve species is assigned 1 to n . di is the difference between the two ranks of each species. After performing this process Spearman's

rank correlation coefficient r_s is calculated using the following formula:

$$r_s = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2-1)}$$

The equation $r_s = 1$ indicates a definitive positive correlation, $r_s = -1$ indicates a definitive negative correlation. A lack of correlation is characterised by $r_s = 0$. For the two samples Spearman's rank correlation coefficient r_s equals 0.83 and supports the above mentioned visual impression gained from [Figure 9.4](#). Both areas seem to contain “Common refuse” reflecting the economic significance of the wild and domestic mammal species under consideration respectively.

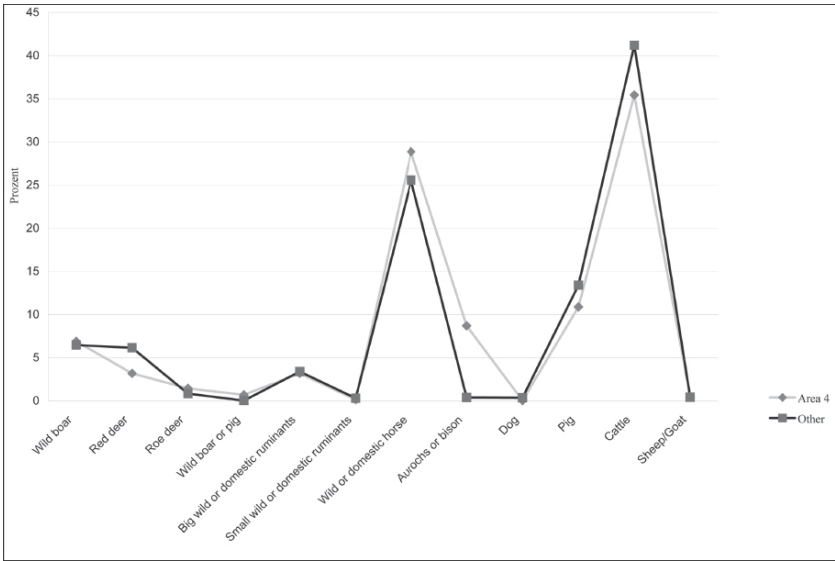


Figure 9.4: Reute-Schorrenried. Weight proportions of the mammal species identified in Area 4 and remaining areas.

Species	Area 4	Remaining Areas	d_i	d_i^2
Wild boar	8	9	-1	1
Red deer	6	8	-2	4
Roe deer	5	6	-1	1
Wild boar or pig	4	1	3	9
Big wild or	7	7	0	0

domestic ruminants				
Small wild or domestic ruminants	2	2	0	0
Wild or domestic horse	11	11	0	0
Aurochs or bison	9	4	5	25
Dog	1	3	-2	4
Pig	10	10	0	0
Cattle	12	12	0	0
Sheep/Goat	3	5	-2	4
$\Sigma d_i^2 = 48$				

Table 9.2: Reute-Schorrenried, Area 4 and remaining areas. Weight proportions of the identified species in both assemblages.

The differing mammalian species are easily recognised using the difference d_i between their ranks in both samples: The numerical values (Table 9.2) indicate minor differences except for aurochs or bison. In Area 4 the relative weight proportion of these species is actually higher than in the adjacent areas. This result compounds the evidence for an association of naturalistically shaped human breasts and the remains of large bovids.

In the Alpine Foreland bones of the two large wild bovids, aurochs – *Bos primigenius* (Bojanus, 1728) and bison – *Bison bonasus* (Linnaeus, 1758), have only been found in small numbers (Steppan 1999). This is also the case at Reute-Schorrenried where the following skeletal elements could be identified: A completely preserved talus could be attributed to *Bos primigenius* using Stampfli's (1963) anatomic distinctives. Its dimensions (GLl: 85,1 GLm: 79,0 Bd: 54,7 Dl: 47,1), the distal breadth in particular, point to a female individual (Degerbøl 1970). In addition, a pelvic proximal phalanx could be attributed to bison using a modern skeleton (Museum of Natural History Basel collection). Five further bone fragments, a proximal metatarsal and the spinous processes of four thoracic vertebrae, could not be positively identified as either aurochs or bison.

With a total length of 26 to 32cm and a weight of 84 to 130g the four spinous processes are part of the cranial segment of the thoracic vertebral column where the former reach their greatest length (Figure 9.5). These finds certainly represent a single male

individual (Figure 9.6). Table 9.3 provides an overview of the anthropogenic traces observed (the examination of the bone surfaces was conducted at threefold magnification): In the ventral part of its left side the first spinous process exhibits two parallel chop marks accompanied by large scratches in the central part of the bone. On the ventral part of its right side several fine cut marks could be recognised running lengthwise and transverse. Again the central part shows large scratches.

The entire left side of the second spinous process is covered with lateral black lines. Once again chop marks are located on its ventral part, and several fine cut marks could be traced running lengthwise and transverse. The right side has but fine cut marks running laterally. On its left side, the third spinous process displays black lines and fine cut marks. Numerous fine cut marks are located on the ventral part of its right side. The posterior edge of the spinous process is partially damaged. Unlike the spinous processes described above the processus articularis caudalis of this specimen is not completely preserved. The fourth and last spinous process is missing the processus articularis caudalis due to damage to its ventral part. On its left side fine cut marks located centrally are running diagonally across. Similar traces are present on the ventral and central part of the right side of the process. Apart from damage to the bones which was probably inflicted during excavation and storage numerous prehistoric marks could be observed and attributed to at least two different anthropogenic activities: Distinct chop marks on the ventral part of two specimen prove the spinous process was cut off the vertebrae at the thin walled part of the arcus vertebrae using adzes or axes. Numerous fine regular cut marks located ventrally and centrally on both sides point to the thorough defleshing of the thoracic vertebrae (Binford 1981, fig. 4.21). The dismembering and defleshing of hunted or slaughtered animals were routine activities regularly leaving traces on the involved skeletal elements. However, the numerous black lines observed on two of the four vertebral spines are exceptional. The question whether the black lines are imprints of organic material e.g. cords or pigments coating the bone's surface remains to be answered by specific trace analyses.

Recent damage				
	255/406-6 Sin. Dext.	255/406-15 Sin. Dext.	255/406-64 Sin. Dext.	255/406-70 Sin. Dext.
Dorsal				
Ventral				
Chop marks				
	255/406-6 Sin. Dext.	255/406-15 Sin. Dext.	255/406-64 Sin. Dext.	255/406-70 Sin. Dext.
Dorsal				
Ventral				
Cut marks				
	255/406-6 Sin. Dext.	255/406-15 Sin. Dext.	255/406-64 Sin. Dext.	255/406-70 Sin. Dext.
Dorsal				
Ventral				
Staining				
	255/406-6 Sin. Dext.	255/406-15 Sin. Dext.	255/406-64 Sin. Dext.	255/406-70 Sin. Dext.
Dorsal				
Ventral				

Table 9.3: Reute-Schorrenried. Aurochs or bison bull, spinous processes. State of preservation and traces of anthropogenic modification.

As an anatomic unit the four spinous processes represent the withers i.e. the highest point of the dorsal line. Some decimetres below the withers and delimited by the shoulder blade and the upper arm, the heart, lung and several big blood vessels are situated in close proximity (Figure 9.7 and 9.8). In order to avoid the escape and the subsequent loss of the prey animal (see e.g. the Prejlerup aurochs in Aaris-Sørensen and Petersen 1986) projectiles have to hit this area which is containing many vital organs and big blood vessels. Unlike horn cores, the vertebral spinous processes of a male aurochs or bison are rather unimpressive and therefore not very likely candidates to be used as possible male counterparts to the breast-shaped artefacts found in the immediate vicinity. However, they would ideally be suited to be used as educational material explaining the anatomy of wild bovids which needed to be considered in a successful hunt. Finally, it can be said, that these results contribute to the interpretation of the wild bovid bones at Reute-Schorrenried as “ritual refuse” (i.e. remains of a ritual act or as parts of a ritual object) and are not based on their remarkable archaeological context exclusively.

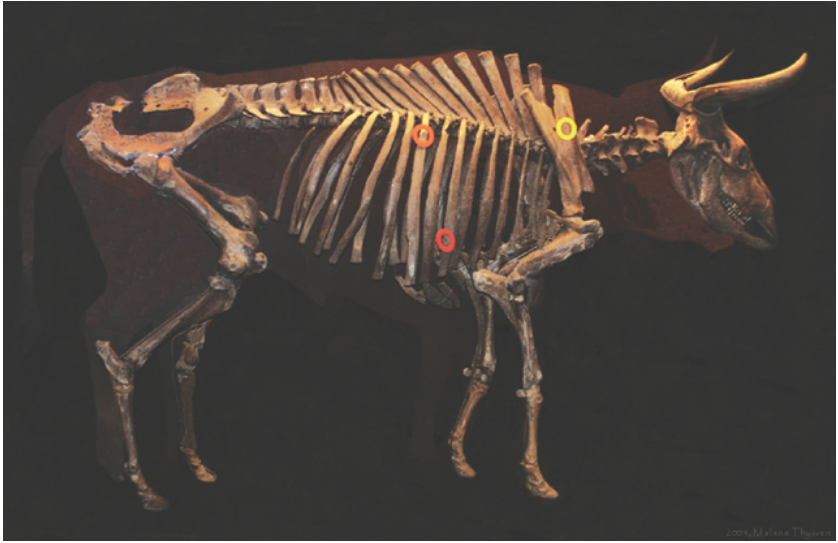


Figure 9.5: The skeleton of the aurochs bull from Vig (DK) exhibited at the National Museum in Copenhagen. Coloured rings mark the impact of projectiles. In aurochs and bison the length of the spinous processes increases from the third thoracic vertebrae onward and decreases steadily afterwards (© Malene Thyssen, <http://commons.wikimedia.org/wiki/User:Malene>).



Figure 9.6: Reute-Schorrenried. Aurochs or bison bull, spinous processes (© Michael Kinsky).

Ludwigshafen-Seehalde

This site is situated at the northern fjord-like part of Lake Constance called Überlinger See. The postulated ritual house at Ludwigshafen-Seehalde, a large-scale lakeside settlement, was situated in the water in the most lakeward row of dwellings right on the edge to the deep-water zone (Schlichtherle 2006, p. 123). The rectangular building (with two rooms or alternatively one room and an ante room) had a length of 7 to 9 m and a width of 3 to 4m (Figure 9.9). The painted ornaments were probably applied to the inner long side of the building facing the lake. Unfortunately, the building's outline could not be made out because of the dense accumulation of posts from different settlement phases and also because non-oak timber was used in its construction which inhibited any dendrochronological analyses (Schlichtherle 2006, p. 125). According to Billamboz (1998b, p. 166), the layer under concern (Older Pfyn Culture) yielded three horizontally embedded timber fragments cut in 3861 BC.

	NISP	NISP %	NISP %	Weight (g)	Weight %	Weight %	Weight Ø (g)
Unidentified, no size estimation	19	48.23		136	10.36		1.25
Unidentified, hare to sheep size	1	0.44		1	0.08		1.00
Unidentified, sheep size	3	1.33		3	0.23		1.00
Unidentified, pig size	3	0.88		3	0.23		1.50
Unidentified, cattle or red deer size	10	8.85		121	9.22		6.05
Unidentified	25	59.73		264	20.11		1.96
Total							
Beaver	1	0.44	1.10	1	0.08	0.10	1.00
Red deer	2	0.88	2.20	67	5.10	6.39	33.50
Wild mammals	3	1.33	3.30	68	5.18	6.48	22.67
Total							

Wild boar or pig	25	11.06	27.47	59	4.49	5.62	2.36
Big wild or domestic ruminants	25	11.06	27.47	221	16.83	21.07	8.84
Small wild or domestic ruminants	2	0.88	2.20	5	0.38	0.48	2.50
Aurochs or bison	2	0.88	2.20	286	21.78	27.26	143.00
Wild or domestic mammals	54	23.89	59.34	571	43.49	54.43	10.57
Total							
Dog	1	0.44	1.10	1	0.08	0.10	1.00
Pig	8	3.54	8.79	61	4.65	5.82	7.63
Cattle	20	8.85	21.98	339	25.82	32.32	16.95
Sheep	1	0.44	1.10	1	0.08	0.10	1.00
Sheep/Goat	4	1.77	4.40	8	0.61	0.76	2.00
Domestic mammals	34	15.04	37.36	410	31.23	39.08	12.06
Total							
Identified	91	40.27	100.00	1049	79.89	100.00	11.53
Total							
Total	226	100.00		1313	100.00		5.81
Red deer (shed antler)	9			20			
Fish	2			2			
Mollusca	1			1			
TOTAL	238			1336			

Table 9.4: Ludwigshafen-Seehalde, Feature 6. NISP and weight of identified species (preliminary results).

From this area of approximately 60m² which was investigated, a small assemblage of highly fragmented and not very well preserved animal remains was obtained. Table 9.4 presents the preliminary results of the archaeozoological analysis. A detailed presentation of the archaeozoological results can be found in a separate publication on Ludwigshafen-Seehalde (Steppan in prep.). What this table

clearly shows is the low number of identifiable specimens raising the question if much can indeed be said about the palaeoeconomic significance of the bone assemblage. However, as this paper is concerned with gaining an insight into the role of animal species in social spheres beyond subsistence economy we will now try see what useful information can be gleaned from the assemblage regardless.

At Ludwighafen-Seehalde we again encounter the unquestionable remains of wild bovids (aurochs or bison) in an assemblage dominated by domestic mammals: Besides an almost completely preserved wild bovid patella a large fragment of the axis (second cervical vertebra) was found (Figure 9.10). Considering the greatest breadth of its facies articularis cranialis (123mm) this vertebra can be positively attributed to a male individual. This vertebra displays signs of anthropogenic modification, but due to the weathering of the bone surface these are barely recognizable: The dens or odontoid process is not completely preserved; it shows chop marks indicating that it was partially removed ventrally by an axe or adze. It is unclear whether this happened when the prey animal was dismembered or at a later date.

This vertebra was recovered in Square 229 from an accumulation of animal bones in the northern part of the excavation area. Not far away, in the northwestern corner of the ritual house, lay several sherds of a vessel that resembles other anthropomorphic vessels of the local Upper Neolithic displaying more or less completely formed female breasts (Schlichtherle 2006, p. 135, fig. 4). Of course, “anthropomorphic interpretations” of archaeological finds should be regarded with the necessary caution. Yet, the association of potentially highly symbolic artefacts within the context of the ritual house may indicate an origin of at least some of the deposited animal bones as “ritual refuse”.

Discussion

The regular but not exclusive occurrence of bones representing male wild bovids, most probably aurochs, seems to be another basic phenomenon of the ritual houses discussed here. This fact is of particular importance as these remains were deposited in a period where hunting played a minor role in subsistence activities not only locally, but on a supra-regional level as was evident through the

very limited number of wild mammal bones found in several contemporaneous settlements of the Alpine Foreland. (Hüster-Plogmann *et al.* 1999; Arbogast *et al.* 2006). Besides the large wild bovids, most probably aurochs, within this study no convincing evidence could be found for any other mammal species having been of ritual importance during the Late Neolithic in the Alpine Foreland.

Obviously, the early 4th millennium is characterised by cultural influences attributable to the Michelsberg Culture (Schlichtherle 1998) located north of the study area. The enclosures at Bruchsal yielded a large amount of aurochs bones and bucrania deposited in the enclosure ditches (Steppan 2002, 2003); from Heilbronn-Klingenbergl several naturalistically shaped human breasts are known having been deposited in pits (Seidel 2008).

Further insight in the probable function of Late Neolithic rituals can be gained when we look for the other contextual information available: The settlements considered date to a period from the first half of the 39th century BC (Older Pfyn Culture) to the end of the 38th century BC (Middle Pfyn Culture). This period is characterized by an increase in population which came to an end during the final phase of the Pfyn Culture (Billamboz 2004, p. 105). Considering the favourable climatic conditions and the accompanying agrarian affluence the growth of the local population could be plausibly argued to result from it. Alternatively, population growth may have been connected to the higher mobility of individuals or groups. Under such conditions communal rituals could have been effectively used for their integrative effect in the consolidation of emerging heterogeneous communities. Alternatively, the communal hunt of a large male aurochs or bison and the related rituals allow for the tradition of hunting knowledge, especially in a period of time where wild resources were temporarily of minor economic importance.

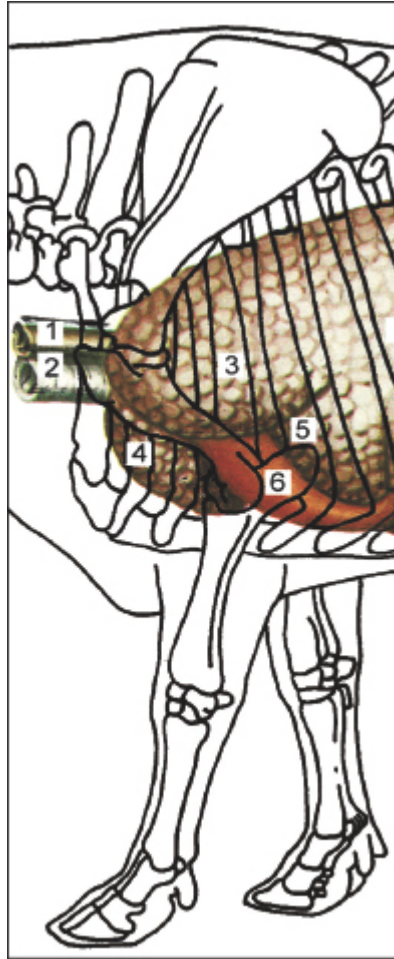


Figure 9.7: Left view of the viscera of cattle: 1 oesophagus, 2 trachea, 3 to 5 lungs, 6 heart (modified from Michel et al. 1986, fig. 4/6).

Conclusions

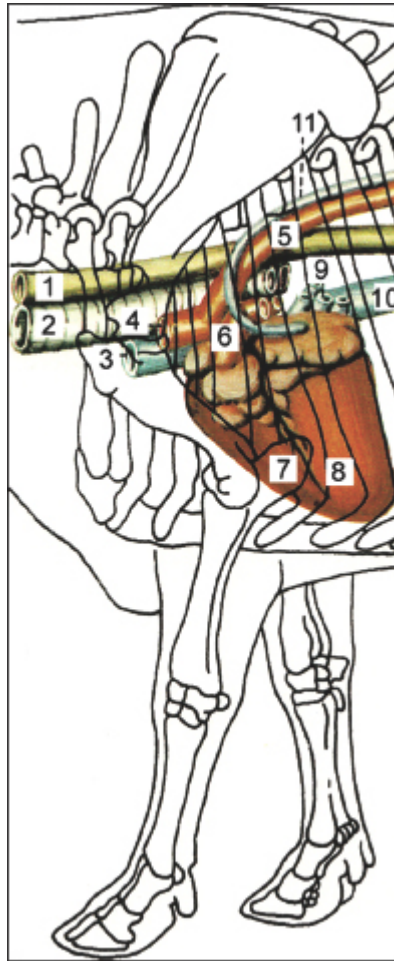


Figure 9.8: Left view of the viscera of cattle, lungs removed: 1 oesophagus, 2 trachea, 3 to 6 arteries, 7 right ventricle, 8 left ventricle, 9 to 11 veins (modified from Michel et al. 1986, fig. 4/7).

The archaeozoological analyses of animal remains from two of the three known Late Neolithic ritual houses reveal evidence for the ritual relevance of male aurochs or bison alone. The regular occurrence of aurochs or bison is a basic attribute of the ritual houses and points to the important role of male large bovids, most probably aurochs, within communal rituals in the Late Neolithic in the Alpine Foreland. While zooarchaeology can be used to contribute to our understanding of the Neolithic more broadly and some hypotheses on the purpose of communal rituals might be

deduced from contextual information, the rituals themselves remain intangible.

Finally, a point can be made for the inclusion of the various threads of archaeological narrative in order to do justice to the cultural and historical significance of finds such as the ritual houses of Reute-Schorrenried, Ludwigshafen-Seehalde and Sipplingen-Osthafen. The most important postulate for future research remains the archaeological investigation of the dwellings adjoining the ritual houses at Ludwigshafen-Seehalde and Sipplingen-Osthafen, as is impressively demonstrated at Reute-Schorrenried.

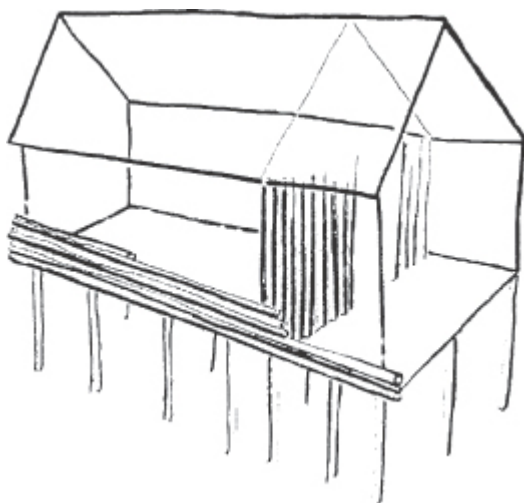


Figure 9.9: Ludwigshafen-Seehalde. Proposed reconstruction of the “ritual house” (see Schlichtherle 2006, fig. 4).

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Note

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Figure 9.10: Ludwigshafen-Seehalde. Aurochs or bison bull, axis (© Michael Kinsky).

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Animal Deposits in the Late Copper Age Settlement of Balatonőszöd-Temetői dűlő, Hungary

Tünde Horváth

Introduction

In 2001–2002 excavations were conducted along the new track of highway M7 at the Balatonőszöd-Temetői dűlő site. About 76,000 m² were completely uncovered from the 100,000 m² of the future junction and track of the highway, while the rest of the territory was investigated with test trenches. An extended, dominantly Late Copper Age settlement was unearthed on a larger part of the site beside other cultures.

About 1100 of the 2800 pit features and close to 100 ovens and hearths can certainly be affiliated with the Boleraz/Baden Period. The settlement can be divided into two parts according to the analysis of the finds. A Boleraz (IB–C phases in Němejcová–Pavůková system, 3400–3100 cal BC) settlement fragment was found on the northern lower lying territory closer to the Balaton, and the settlement of the older classical phase of the Baden culture (IIA/B–III phases, 3300–2400 cal BC) stood on the more elevated territory ([Figure 10.1](#)).

Beside the profane elements of the daily life of the inhabitants of the settlement, an unusually large number of the unearthed features and objects belonged to the sacral sphere. Human and/or animal skeletons were found in 75 features. In this paper, these features interpreted as intramural burials or blood sacrifices will be analysed together with the archaeological material found together with them

and in their environmental context, sub-divided further into two groups: multi-layered features with human and animal skeletons (for details see individual species and [Tables 10.1–10.2](#)); features with animal skeletons (blood sacrifices or animal burials: see [Tables 10.1–10.2](#)) by species (cattle, small ruminants, pigs, dogs).

Mass sacrifices with/without human skeletal remains

Two large groups can be differentiated on the basis of excavated contexts: features in which the sacrifices were laid in subsequent layers and those deposited in a single layer.

In the case of stratified pits it seems possible that the ceremony was repeated and it took a long time to fill up the pit. This supposition is contradicted by the facts that the fillings of the pits were uniform despite the stratification, no definite dividing layer could be observed between the levels of the skeletons, and the skeletons and the shards recovered from the subsequent levels could be fitted together. The radiocarbon data measured from different layers also stand close to one another (see pit No. 426; [Figure 10.2](#)). The stratified sacrificial pits can instead be interpreted as subsequent phases of a ceremonial series, which were performed in a winter period/cycle between late autumn and early spring as can be calculated from the ages and the natural reproduction periods of the animals.

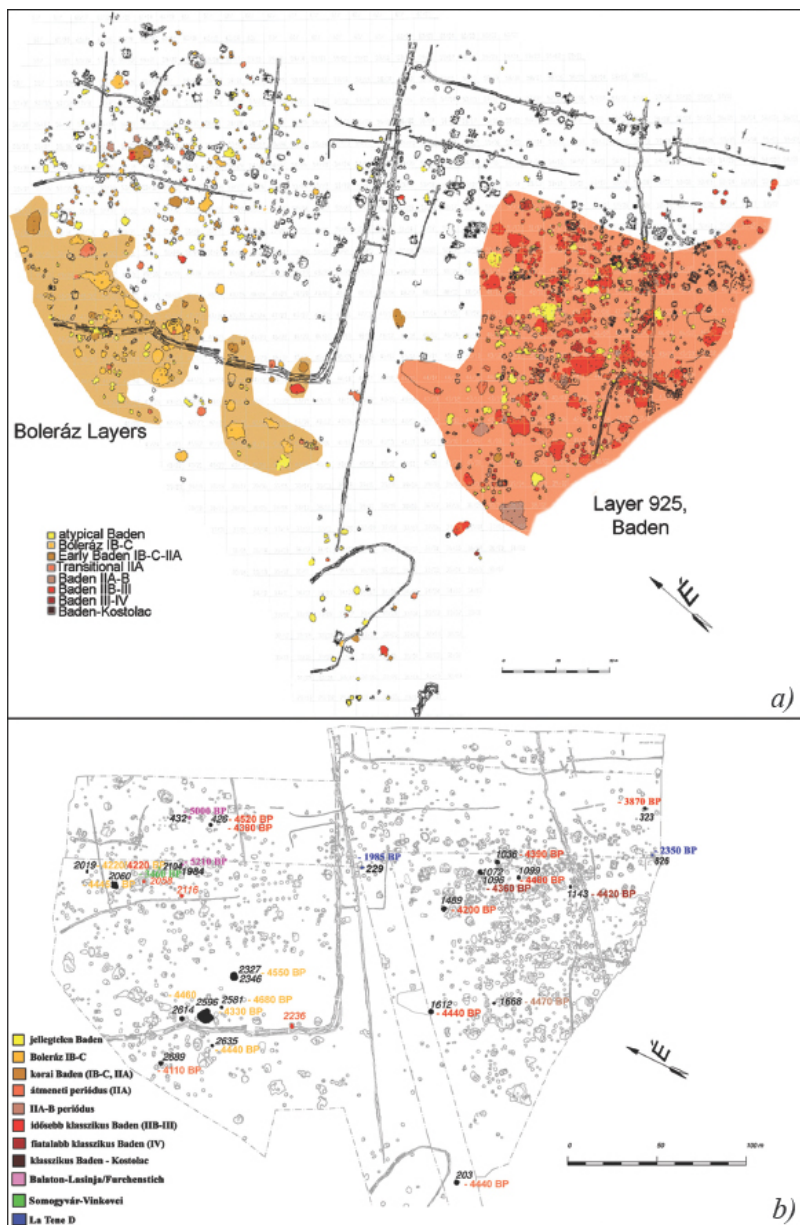


Figure 10.1: The ground plan of the excavation: a) features in the Late Copper Age; b) radiocarbon dates of Late Copper Age.

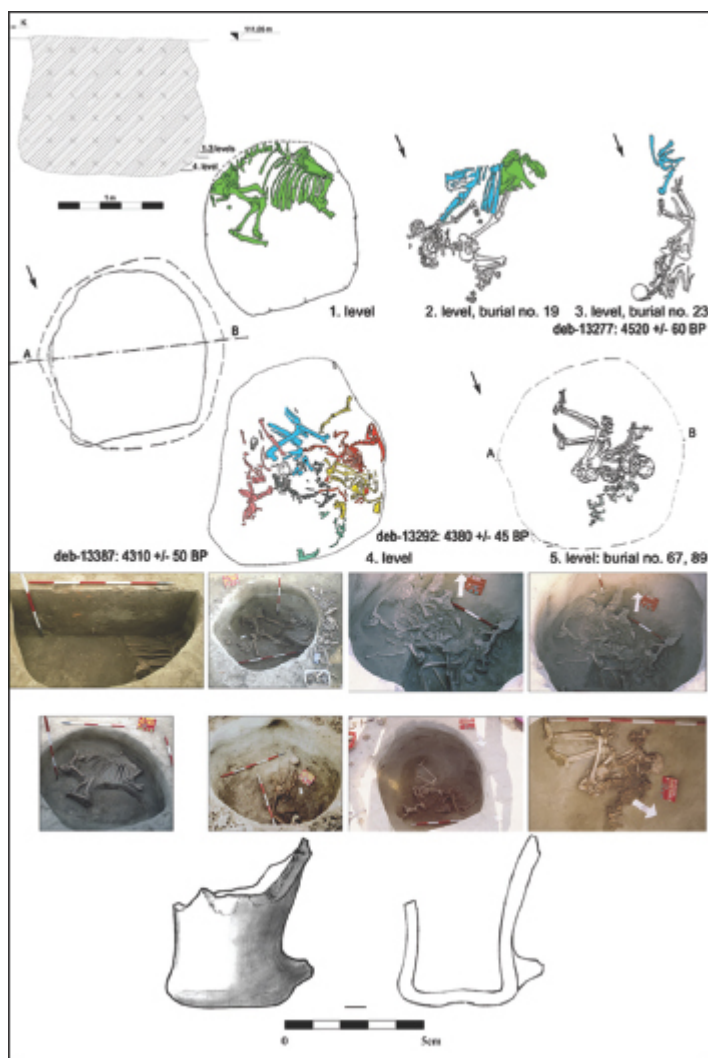


Figure 10.2: Pit No. 426.

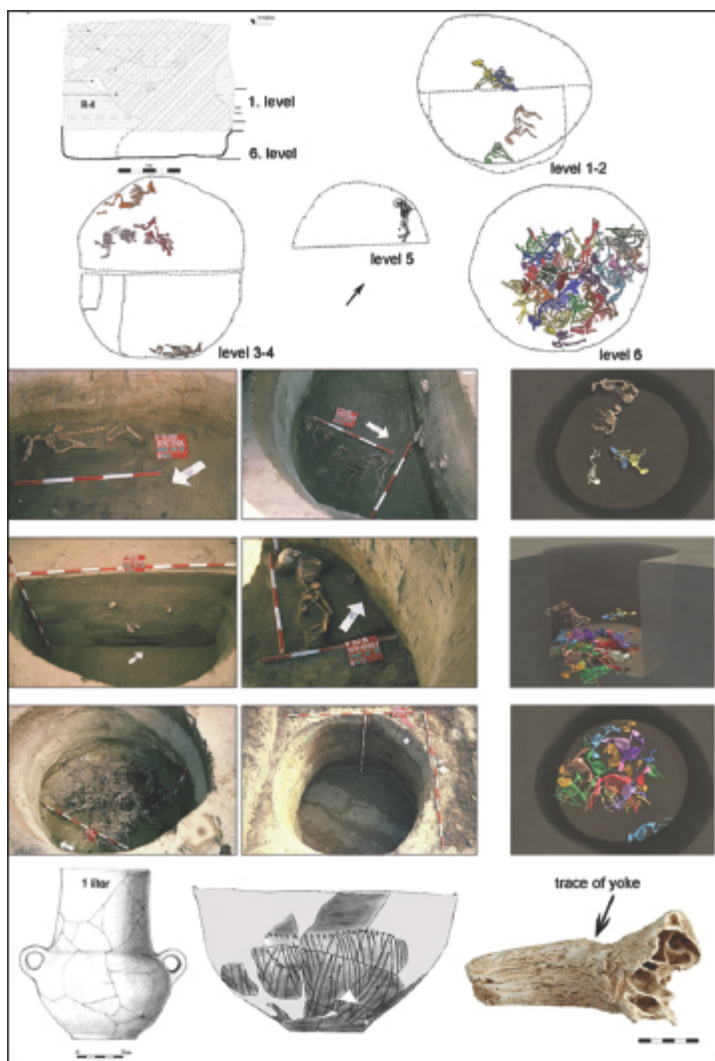


Figure 10.3: Pit No. 1612.

Judging by the high number of human and animal individuals, the features contain large communal sacrifices. The appearance of young, infant human individuals is characteristic of the composition of human skeletons (203, 1085, 1612). The animal skeletons are varied regarding their species, age and gender. Cattle (always a bull), sheep (in pits Nos. 1036 and 1612 sows with their foetuses or newborn lambs were found) and dogs (in pits Nos. 203, 1362, 1497, 1612, 1844) are frequent among the animal species. Wear traces

caused by a yoke could be observed on the horn of the old cattle uncovered in pit No. 1612 (Figure 10.3). The smaller skeletal parts could be the remains of ritual feasts, offerings linked with the sacrifice. Attached fire places and ash depositions in pit No. 1036 suggest the character of the sacrifice here was a burnt offering. The animals in pit No. 1036 were killed by wringing their necks. The complete skeletons were placed in the sacrificial pit so only the interior organs and the blood could be used for the burnt offering (Figure 10.4). Pits Nos. 1072–1096 with the half of a male mask (Horváth 2004), three pile-dwellings (Horváth *et al.* 2007), human burials in pits Nos. 744, 981, 1085, 1106, 1334, 1277 and 1489, and pit No. 743 with the so-called handled, anthropomorphic suspension vessel belong to its broader environment. The footed goblet in pit No. 1033, further goblet fragments in cuttings 50/9 and 10 from layer 925, the painted-incised female idol in pit No. 1088 and the fragment of a house model in cutting 50/11 could belong to the same sacrificial area (Horváth 2010; 2010a).

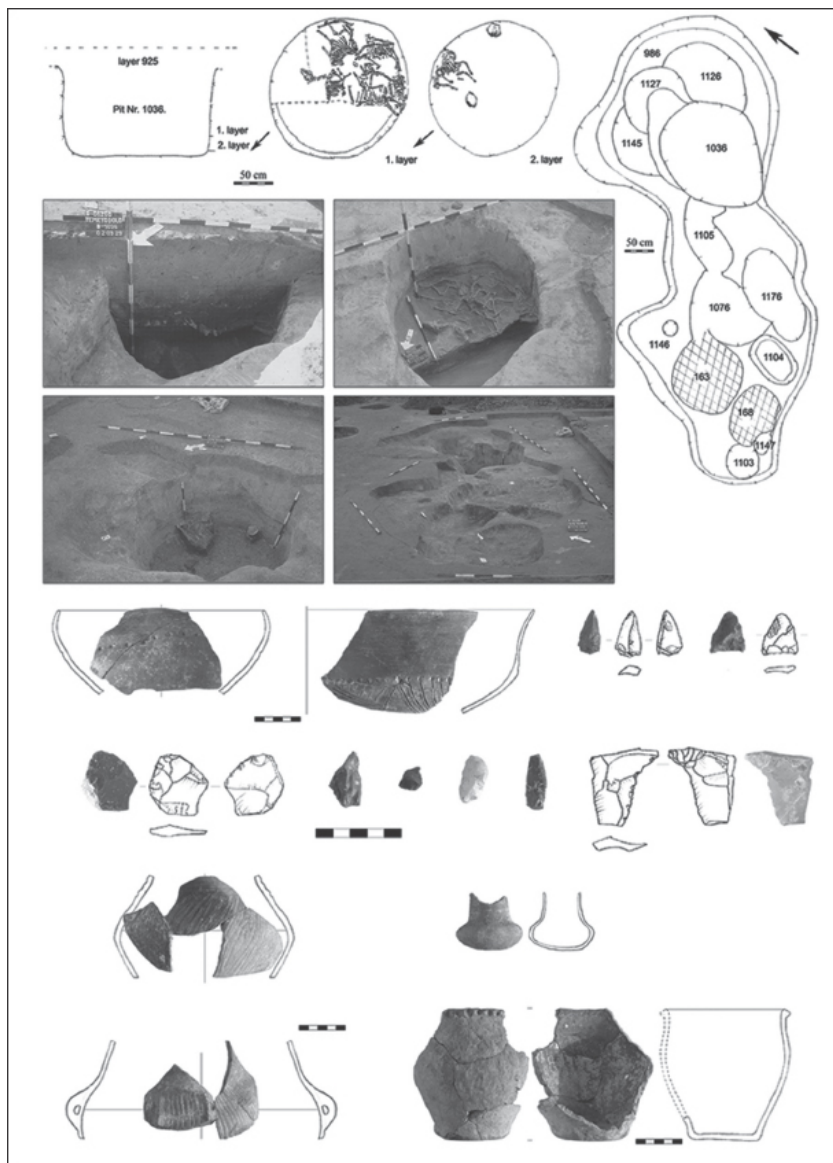


Figure 10.4: Pit No. 1036 with the ceremonial place of its environment, and finds from the pit No. 1036.

		№ of individuals				
Species	Sum № of features	Total	Skeleton/ Part of skeleton	Others	№ of bones	Perished individuals

Cattle	44	72	36	36	2602	2 skeleton
Sheep	37	134	71	63	3572	1 skeleton
Goat	1	1	1		84	
Pig	31	52	22	30	1266	2 skeleton
Dog	16	24	13	11	660	3 skeleton
Horse	2	6	2	4	4	
Domesticated animals		287	145	144	8188	8
Auroch	2	2		2	2	
Deer	2	2		2	4	
Roe	2	2		2	2	
Wild cat	1	1		1	4	
Rabbit	1	1		1	5	
Game		8		8	17	
Total	51	295	145	152	8205	8

Table 10.1: Balatonőszöd-Temetői dűlő: the animal bones from the sacrificial pits.

A similar ritual area can be outlined in cuttings 44/6, 7–45/7–46/8, a 48–49/9, 10, 11 in the region of pits Nos. 1085, 1228 and 1608 and in cuttings 38–39/4, 5, 6 (six pits with animal sacrifices) and in cuttings 55/30, 31 (burial No. 59 in pit No. 1992, a female idol in pit No. 1988, and an ox-head protomé, broken from a cart-model in pit No. 1998).

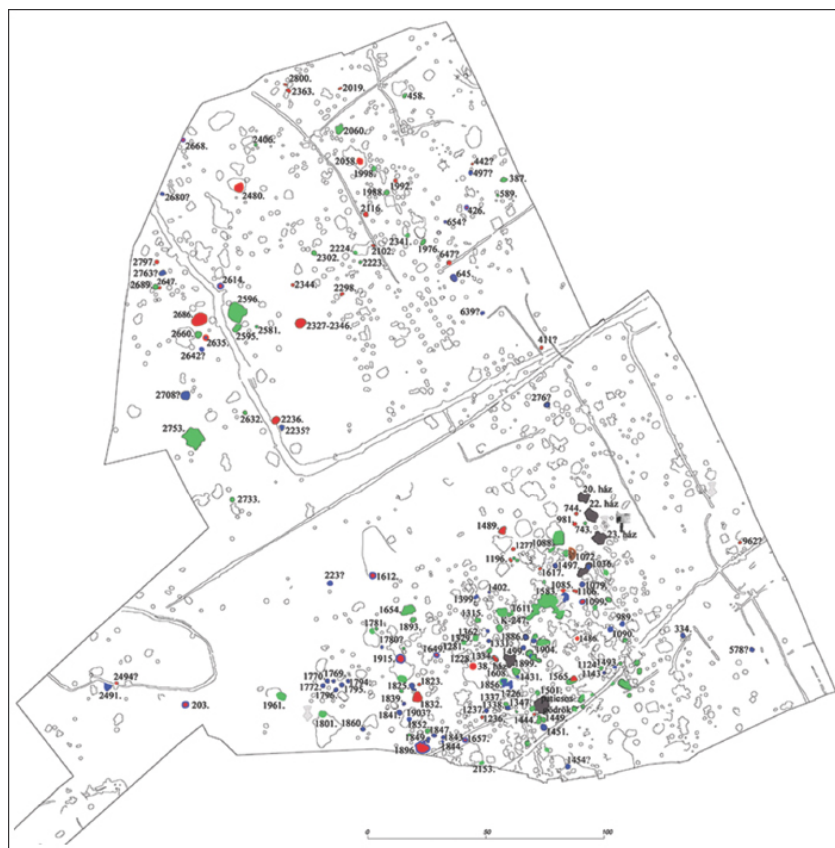
According to the archaeological finds, the character of the sacrifices can be affiliated with the collective peace sacrifices mentioned in historical descriptions of religious practices. This interpretation supposes violence within or from outside the community. The question is whether this supposition can be proved with data attesting to atrocities and warfare, or violence within or from outside the community.

Cattle burials

Cattle (*Bos Taurus* L. 1758) served various functions at the time of the Boleraz/Baden cultures: the meat, the marrow and the milk were directly consumed; the bones, horns and skin were used for preparing everyday functional objects, weapons, clothing and vessels. The draught power of the living animals was exploited in transportation and traffic (trading) and also in cultivation

(ploughing, sowing, harrowing, treading-threshing). The manure was probably used for fertilising the soil and other purposes (firing, daubing etc.). The manifold process which saw the commencement of further exploitation of animals that had primarily been domesticated for their meat in the Neolithic, has been referred to as the revolution of secondary products (Sherratt 1983).

Only a few representations of cattle are known in the Carpathian Basin from this period. A fragmentary figurine probably of cattle was uncovered in apsidal house No. 1 at Vučedol-Gradac (Baden or Kostolac cultures?: Schmidt 1945, T. 29.3). A few similar ones were unearthed among the graves of the Pilismarót-Basaharc cemetery (grave No. 359 with a stone packing: Torma 1973a, p. 24), which were perhaps symbolic sacrificial offerings to honour the dead. The animal figurines of Pilismarót are special due to their size. At Vác, they appear in the form of a zoomorphic vessel (Kővári 1993, pp. 483–484): this is the most complete and the most delicately elaborated zoomorphic vessel of the culture. In another genre, they can be encountered as components of cart models (Balatonőszöd, pit No. 1998, Horváth 2011 in print).¹



KEY: GREEN: Cultic find; RED: Human sacrifice; BLUE: Animal sacrifice

Figure 10.5: The ground plan of the excavation with the sacrificial features and finds.

The prehistoric cattle sacrifices cluster in the centre of the Danube region within Europe (Figure 10.6), and although they appear in various periods and cultures between cal 3600–2200 BC, most of them can be affiliated with the people of the Funnel-Beaker, the Baden, the Globular Amphorae (see Szczodrowski this volume) and the Corded Ware cultures (Behrens 1964; Pollex 1999; Jeunesse 2006; Szmyt 2006; 2008). They appeared in the Middle Copper Age: Altmärkische Tiefstichkeramik, and then FBK: Wartburg, Walternienburg, Elba–Havel, Bernburg, Salzmünde–complex, and remained characteristic until the end of the early Bronze Age: CWC, its Schönfeld complex, GAC, and the Mierzanowice culture. On the

basis of the latest cases uncovered with amber disc grave-goods, the 'deposits' can be linked with the cult of the sun (Pollex 1999).

The cattle skeletons found in pairs in grave No. 3 of Alsónémedi and grave No. 3 of Budakalász (Korek *et al.* 1951) were previously interpreted as belonging to cart burials. This supposition can be refuted: it is impossible according to cases uncovered in regular cemeteries and also in settlements that any kind of a cart structure from any material could have been placed beside the animals in the narrow pits. Besides, the genders and ages of the individuals of the double burials (generally a cow and a young calf were buried together, e.g. Balatonőszöd, Pit. No. 1856, [Figure 10.7](#)) are inconsistent with a trained draught unit.² Nevertheless, their distribution, the time and the frequency of their appearance evidently shows a connection with the sudden development of cattle breeding in the northern hemisphere between 4000 and 3000 cal BC, and with multi-factorial unfavourable climatic deterioration, which was most probably due to the change of the Sun's activity between 3900, 3550, 3250 and 2900 cal BC (Piora oscillation, Magny 2004; Maghy and Haas 2004; Arbogast *et al.* 2006, in the Circumpalpine lakeshore settlements).

The stature of Baden cattle is extremely heterogeneous according to archaeozoological analyses, and they can be grouped into various types (pigmy, low, medium, high medium, high; gigantic statures can equally be found; Vörös 1983, p. 38). The animals selected for sacrifices generally belonged to the so-called *Bos taurus primigenius* (Rütimeyer 1862) type, which can be identified from the shape of the skull.

Regarding the animal burials of the Boleraz/Baden culture, cattle burials show the greatest variety regarding their slaughter, the positioning of the animals and the completeness of the skeletons. Incomplete, partial skeletons are often unearthed, which suggests the existence of ritual maiming or butchering. The method chosen for the butchering of the animals could serve profane or ritual purposes (dividing the animals into body parts: head, trunk, meaty limb, dry limb, digits/bones remaining in the skin). In certain cases, the head was cut off from the body at the cervical vertebrae before burial, while in other cases the vertebral column was cut in the lumbar region. Separated skulls, skulls with vertebrae, vertebral columns/vertebrae in an anatomical order and associated hind limbs were also placed in the pits. Sometimes the horns were sawn

off from the head. The practical reason behind the removal of the horns can be linked with the secondary exploitation of cattle: the animals become more manageable during milking and yoking. In phase IV of the Baden culture, cattle were characteristically laid on their back with the legs spread apart in a 'frog-like' position (e.g. Ecser 6 site, and Budapest-Káposztásmegyer: Endrődi 2004, fig. 49). In a few cases the hock joints were missing (as a consequence of felling or skinning). The animals were probably killed next to the pits (they fell into the pits when the hock joint was cut). The wound marks on the skeletons suggest that they were certainly deliberately slaughtered and did not die in a natural way (the observed wounds were smashing the skull; pole-axing; mandibular wounds; knocking down, rarely perhaps a stab in the chest or to the shoulder-blade). Recorded examples are noted on two sites: at Budapest, Káposztásmegyer/Farkaserdő pit No. 30, where the double cattle burial included the vertebral column of the 3-year old cow that had been broken in the lumbar region, the horns of the other cattle were cut off from the head, its forehead was smashed by pole-axing; pit No. 49: at least three pole-axe blows struck the head of the 4–5 year old cow; at Pilismarót-Szobi rév, pit No. 315: the horns were cut off from the head and a stab wound with sharp edges can be seen on the left scapula (Endrődi and Vörös 1997; 1998).



Figure 10.6: 1) Double cattle burials in Europe;

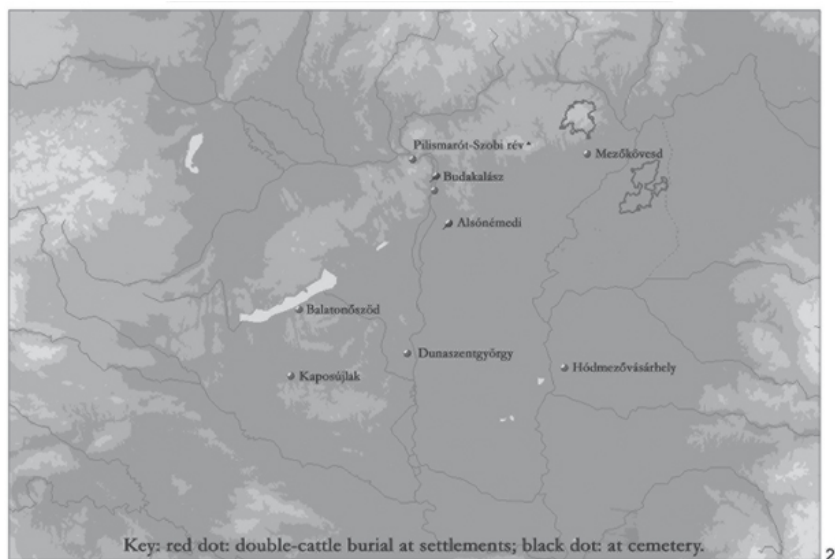


Figure 10.6: 2) Double cattle burials in Hungary.

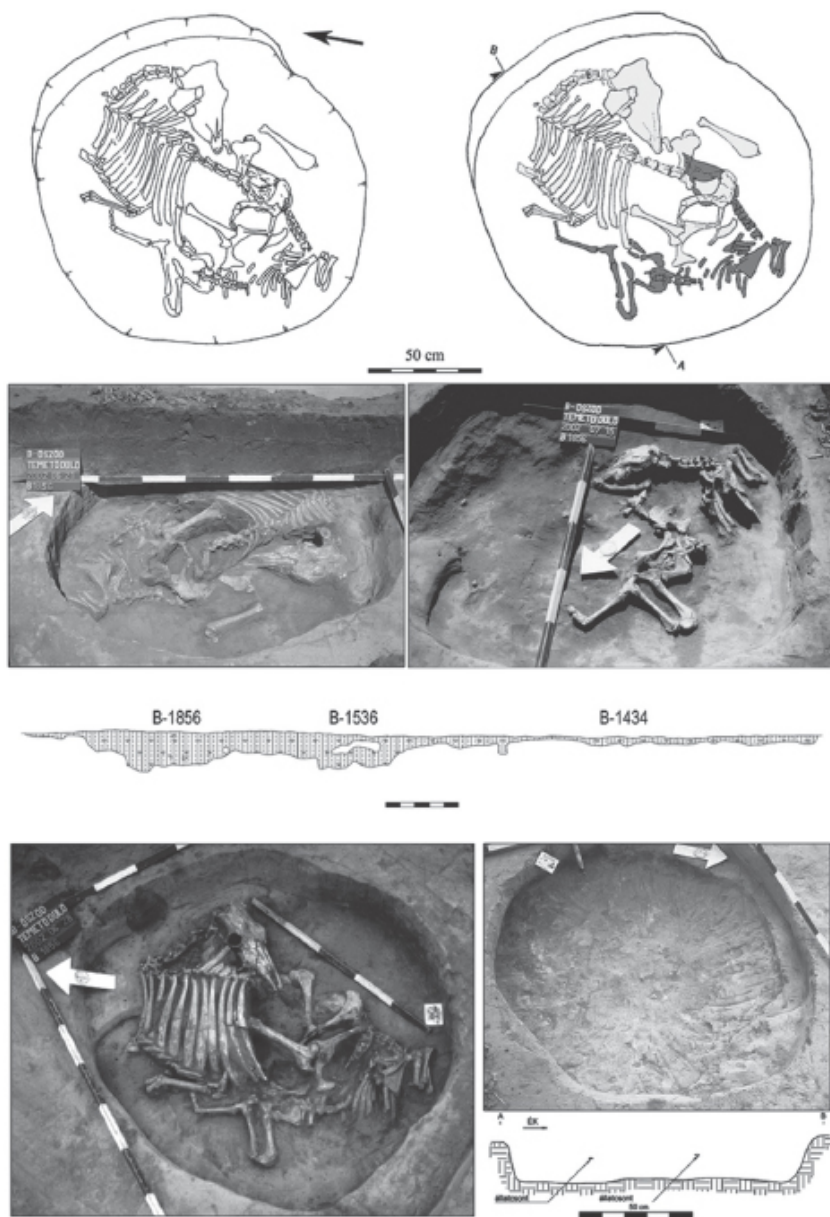


Figure 10.7: Pit No. 1856 with double cattle burials.

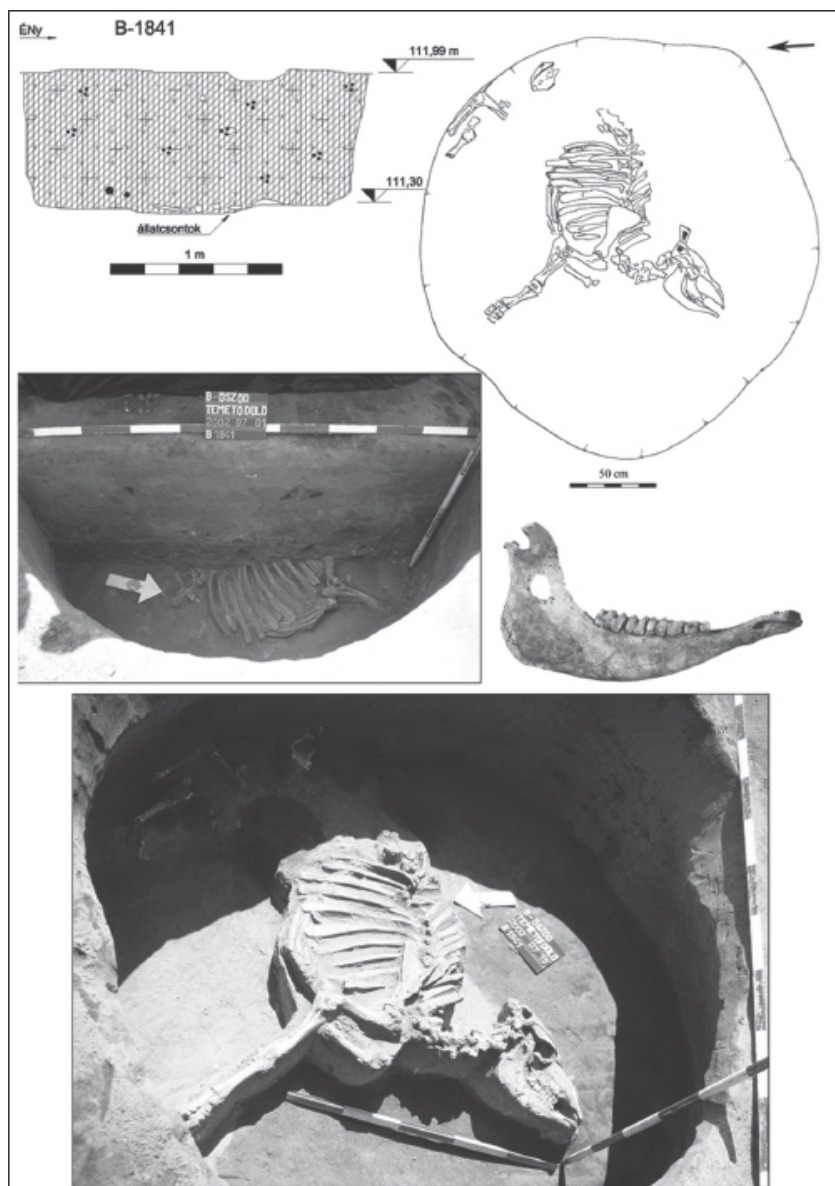


Figure 10.8: Pit No. 1841 with cattle burial.

A relatively limited assortment of tools and methods could be used for killing these animals (stone axes, flaked stone tools, bone tools, wooden clubs, putting one's hand in the opened chest and stopping the blood circulation by rupturing the artery, cf. Vörös

1979, p. 24; Bartosiewicz *et al.* 2008). According to the Balatonőszöd cases, the animals could be stunned before killing (knock on the head with a stone axe in pit No. 1841, [Figure 10.8](#)) and the blood could be let out (blood was probably necessary for the offering). The partial skeletons indicate skills in butchering and skinning, although no cut marks could be observed on the animal bones.

№ of the feature	Cattle		Sheep		Pig		Dog		Other
	Total skeleton/part	other	Total/part.	other	Total/part	other	Total/part	other	
334.	1								
1493.	1								
1839.	1								
2491.	1								
1431.			1						
1781.					1				
2058.					1				
578.							1		
2635.									1 auroch
1272.		1		1					
1334.		1		1					
1339.	1			1					
1085-1583.	1		1						
1860.	1			1					
1899.	1			1					
2668.	1			1					
426.	2		6						Goat 1
1657.	2	1		1					Wild cat 1
1795.	1				1				
1796.	1	1			1	2			
1856.	2	1						1	
1849.					2			1	
1882.					1			1	
203.	1		10			1			
1143.	1	1		2		2			
1237.	1	1		1		1			
1331.	1		1	1		1			
1402.		1		1	1				
1769.		1		1	2				
1794.		2		1	1				
1825.		1	2	1		1			
1841.	1	1		1		1			
1886.	1	2		1	1	2			
1896.	1	1	1			2			
1915.		1		1		1			
2614.		2	1	4		1			
1608.	2	1		9	1	2			Deer 1, Fish 1
1772.	1	1		1	1				Horse 1
1904.	1	1		1		1			Roe 1
1847.		1		1			1	1	
1079.		1	1	1			1		
1649.		1		1				1	
1843.	1	4				1		1	Horse 3
1036.	1		9			2		1	
1106.		1		1		1		1	
1497.		1		1	1	1	1		
1499.	1	1	4	9	5	2		1	
1844.	2			1		1	1		
1451.	1	1		4		1		1	Roe 1
1770.	1	2		1	2	1		1	Rabbit 1
1612.	1	1	34	10		2		8	Auroch 1, Deer 1
TOTAL: 51	36	36	71	63	22	30	13	11	

Table 10.2: *Balatonőszöd-Temetői dűlő: the species of the sacrificial pits.*
Key: **Bold:** with human skeleton. *Italic:* with many animal skeletons in one pit.

Traces of burning can often be observed on the animal bones (just like on human sacrifices) and they are often found in a layer of ash and daub (e.g. Pilismarót–Szobi rév, Vörös 1979, pp. 190, 197). They may have been in contact with fire (in the manner of a burnt sacrifice?) before being placed in the pits, since only the surfaces of the bones were scorched (e.g. Tahitótfalu: Vörös 1985, p. 17). The repetition of this act across the area occupied by this culture implies that it was part of the ceremonial choreography.

Cattle were thrown into the generally small pits or they were placed on the right or the left side, sometimes on their back. The skull was turned back on the vertebral column or under it. The positions of the limbs was also varied: accidental, extended, crouched (all four or only the fore/hind limbs), or the hind legs were pulled up in a ‘froglike’ position. No system could be detected in the orientation: it was varied even within the same settlement. The positions of the bodies, however, reflect the same pattern as the one observed in human burials. Because of this and the proximity and connection between the human and cattle burials, it seems probable that cattle had the same value in the late Copper Age society as humans; they could substitute for people, including as offerings in a blood sacrifice.

The recurrent, standardised forms of cattle burials imply that every version mirrored a specific social situation, which, however, had the same meaning in each community of the Baden society, and it was filled with the same symbolic content (cf. Douglas 2003, pp. 91, 155). Besides the survival of the earlier, Neolithic bull cult, cow and firstling sacrifices also became emphatic in the Late Copper Age. The archaeozoological analysis of our site (cf. [Tables 10.1–10.2](#)) identified 20 bulls and 14 cows from the 72 individuals (36 complete or partial skeletons, bone fragments from the same number of individuals, 2 perished ones) uncovered in 44 pits. The distribution of the analysed individuals by age: the bulls are generally of a juvenile/sub-adult age (8), 4 were of a sub-adult/adult age, 6 were adults, and each individual belonged in the infant, foetus and mature categories. Sub-adult/adult individuals dominated among cows (6) followed by 3 juveniles and a sub-adult,

an adult/mature and a mature individual. From among the individuals whose gender could not be determined, adult individuals dominated (16 items), although most of them were represented by only a few bones.

The 9 infant, 5 juvenile, 1 newborn and a foetus individuals can be identified as firstling sacrifices (foetus: pit No. 1331, younger than half a year old calves: pits Nos. 1090, 1143, 1493, 1772, 1856, 2614). The methods of killing the animals is evident on the individuals from pits Nos. 1841 (mandible injury by stone axe), 334, 1090, 1331, 1841, 1843, 1860, 1899 (breaking of the vertebral column at the neck – cause of death or post mortem manipulation?), 1583, 1608 (separation of the head and the trunk – cause of death or post mortem manipulation?). The traces of yoking can be observed on the horn of the cattle in pit No. 1612. The animal sacrifices lay in pits Nos. 426, 1839 as they had been thrown in, while the rest of the animals were positioned. Generally, a single animal lay in a pit, a pair was found in pit No. 1856, and they were found together with a pig in pit No. 1795. Aurochs were found in pits Nos. 1612 and 2635. The animals were generally killed in autumn, sometimes in winter/early spring and in two cases in the summer.

Small ruminant (sheep/goat) burials

The Early Neolithic cultures brought with them Southeast-European domesticated animal species when they arrived in the Carpathian Basin, among which small ruminants dominated (Bökönyi 1971, 642; Clutton-Brock 1999, p. 70). Natural growth of numbers was never substantial enough within the circumstances of prehistoric animal keeping to meet human demand, so the domesticated animal species always had to be complemented with wild individuals that could be domesticated. However, the wild representatives of the small ruminants did not live in the Carpathian Basin, only aurochs (the wild ancestor of cattle) and wild pig (the wild ancestor of domesticated pig) could be found there. Thus the two locally domesticated species gradually became more dominant than the small ruminants. This idea has since been refuted by traditional zoological analyses (Vörös 2005, 210–211.) and DNA tests carried out on Neolithic cattle and aurochs bones in the Johannes Gutenberg University in Mainz (Bollongino *et al.* 2003).

In the Boleraz/Baden period, István Vörös differentiates the hornless, turbary (*Ovis aries palustris* (Rütimeyer 1862)) and Studer's sheep (*Ovis aries studeri* (Duerst 1905) types (Vörös 1983, p. 39). The Copper Age sheep could already yield more wool (Bökönyi 1971, pp. 649–650), and perhaps the new features gave a new impetus to sheep keeping. The wide distribution of a new, conical or biconical, heavy spindle-whorl type is connected with this process: it is one of the landmarks of the “Badenisation process” (Köninger *et al.* 2001).

Sheep figurines are known from the cemetery of Pilismarót-Basaharc (Torma 1973a, under stone-packing grave No. 413; at the edge of stonepacking grave No. 414; on the surface between graves Nos. 416, 418), from Salgótarján-Pécskő (Korek 1968, Pl. XII/4, Pl. XIII/1–7.) and Vel'ké Lomnica (Vladár 1979, p. 62, obr. 38–39). Sheep were significant in the Baden culture as animals with multiple uses: they were nearly equal to cattle. Regarding their body volumes, the meat of about 5–10 sheep was equivalent to that of a single cattle,³ so the meat and other products provided by sheep were lower than those of cattle even though there were high numbers of sheep (from the 37 sacrificial pits of the site 134 individual sheep; 71 complete or incomplete skeletons, 63 bone remains, and also an individual goat were recovered at Balatonőszöd, cf. [Table 10.1](#)).

Sheep were not only exploited for their meat and milk, but their wool was also utilised in textile weaving, felting, cloth fulling etc. The first data on the consumption of sheep milk came from the western Iranian region from 5000–3000 BC (Benecke 1994, p. 130, fig. 45: Kish/Tell el-Ohemir, milking of a hornless sheep). The first evidence for wool use dates back to around 6000 BC in the Near East (Benecke 1994, 136, fig. 50, clay sheep figurine, Tepe Sarab; Nahal Mishmar cave 8 woolbased cloth remains), while in Europe, the earliest data on wool processing derives from the end of the 4th millennium (Benecke 1994, pp. 138–139, fig. 51: wool cloth remains from Switzerland, figurine of a woolly sheep from Jordanów Śląski, Jordanow culture, Middle Copper Age). Finds attesting to the increasing utilisation of sheep wool and flax can be connected with the changing social estimation of women and dressing (Baldia *et al.* 2008; cf. Horváth 2008: gynaecomorphism). The analysis of the animal bone material of the Tiszavalk cemetery has demonstrated that sheep were the most important animals at

the offering feast organised within the framework of the burial rite as early as the Early/Middle Copper Age (Vörös 1986).

The goat is also called the ‘cattle of the poor’ because it is less demanding, smaller and gives much milk. Goats were mainly kept for their meat and milk, and various articles of practical use were made from their skin. The bones (for awls, pins, sockets and cases) and the horn cores of both animals were used for tool making. Musical instruments were prepared from the horns of small ruminants, suet was used in lamps, their manure provided fuel and added to the daub. They were very useful in that they ate young bushes and branches and so contributed to cleaning the clearings. Regarding the quality of the pasture, they were satisfied with barren, desiccated meadows, in contrast to cattle that needed rich pastures. Regarding their represented numbers, they do not seem to have played an important role in the Late Copper Age (one he-goat appears in the multilayered pit No. 426).

Meat consumption plays a prominent role in certain (especially sheep-keeping) cultures, which becomes a quasi, protocol-like, rigid, ritual ceremony. A whole process of communication can be expressed without words by the seating of the participants at a feast, the preparation of the food and the serving of various parts of the animal, since every movement has a symbolic meaning (Grantham 1995). According to ethnographic studies, small ruminants were endowed with the properties of carrying power, health and luck and averting evil as the reviving symbols of nature and vegetation.

In the uncovered Late Copper Age phenomena, small ruminants occurred beside humans, with dogs, and beside cattle burials with entire skeletons (pit No. 1795) or partial skeletons (cf. [Tables 10.1–10.2](#)). Small ruminants did not have the same individual role as cattle in animal burials. They were, however, characteristic animals of mass sacrifices (pits Nos. 203, 426, 1036, 1085, 1331, 1499, 1608, 1612, 2614). The proportion of pregnant ewes and fetuses/newborn lambs is very high in the collective sacrificial pits (203, 1036, 1331, 2614). They were generally killed by breaking the neck.

Pig burials

Pigs (*Sus domesticus* (Erxleben 1777)) were especially favoured in

prehistoric cultures because of their prolificacy. These domesticates were used first of all for their meat and fat, whilst the skin and bones were also used in various ways. Their excellent sense of smell could also prove useful when searching for mushroom and roots. The presence of pigs in a settlement indicates a settled lifestyle since they were generally fed on vegetal food and food remains. According to other authors, the increase in pig keeping indicates continuously immigrating new populations within the settlement (Pétrequin *et al.* 1998, p. 190). Certain studies owe special importance to the manure grubbing and eating habits of pigs: the animals practically removed the refuse and excrement from the settlement, which increased in parallel with the growth of the human population. In this sense, pigs were the disease limiting and also disease spreading factors of prehistoric societies (Nemeth 1998). When they were driven into the fields after harvests, they grubbed up the left over roots and made the field more fertile.

Transitional individuals between the domesticated and the wild versions can continuously be demonstrated in the Neolithic in Hungary. Small-statured *Torfschwein* (*Sus (scrofa) palustris* (Rütimeyer 1862), Vörös 1983) were characteristic of the livestock of the Baden culture although large-bodied individuals also appeared. Wild boar mandibles and tusks often appear in the grave assemblages of burials from the Late Neolithic to the end of the Middle Copper Age. They are not that important in the burials of the Baden culture although they are still present (e.g. the Baden cemetery of Budakalász-Luppa csárda, male grave No. 91: Korek 1986). Polished tusk plates were found in pits Nos. 1789, 2234, 2655, 2708 and 2724 at our site. They could be status symbols, totem animals or trophies as well (cf. Griffin 1998). The fragment of a pig figurine is mentioned from grave No. 364 of the Pilismarót-Basaharc cemetery (Torma 1973b, p. 494).

Complete and partial skeletons were found in the sacrificial pits. There are domesticated and wild individuals among them. In Celtic, German and Scandinavian mythology, wild pigs are symbols of bravery, the great and cunning warrior, the most worthy and noble adversary, and they were also the most frequently prepared as sacrificial dishes. In ancient Greek mythology, a subterranean shrine or *megara* was built for Demeter and her daughter; pigs were generally sacrificed to this goddess of agriculture and cultivation (as substitute offerings, holy pig figurines also appear in the shrine

district: Mylonas 1961, fig. 66).

At our site, the pits with independent pig skeletons generally contained partial skeletons of other animals, which suggest that food for the feast or the afterlife was added to the sacrifice. Pig skeletons occurred beside a human skeleton (pit No. 2344) and beside a cattle skeleton as well (1795). The piglet found in pit No. 1794 was probably a firstling sacrifice, supported by the miniature suspension offering vessel decorated with painted and incised patterns, which was found beside it. Piglet bones were also found in pits Nos. 203 and 1331, 1770. Besides, they were common elements in the large stratified pits (pits Nos. 203, 1331, 1362, 1497, 1499, 1608, 1770, 1795), and smaller parts and bones of pig skeletons could be found in nearly every pit (cf. [Tables 10.1–10.2](#)).

Dog burials

The domestication of dogs (*Canis familiaris* L. (1758)) is typically dated to the Mesolithic, yet it could have already been a companion to humans much earlier (Bökönyi 1974, p. 317; Larsson 1990, p. 155; Clutton-Brock 1999, p. 49). Smaller dogs were common in the Copper Age just like in the earlier periods (turbary dog, *Canis familiaris palustris* (Rütimeyer 1862)). There is also evidence from the Neolithic and the Copper Age that dogs were consumed by humans, a custom which disappeared only in the Bronze Age (alongside the frequent occurrence of bones, cut marks were observed on a number of bones: Schibler 2006, p. 60).

The dog role's in hunting was less important; instead these animals watched houses and herds. The *palustris* type is the most frequent in the prehistoric dog burials. A fragment of a dog figurine and fragments of a rhyton lay in grave No. 359 at Pilismarót-Basaharc. I. Zalai-Gaál surveyed the dog burials from before the Baden culture (Zalai-Gaál 1994), and J. Maringer summarised them for prehistoric Europe more widely, also with regard to their historical religious role (Maringer 1980–1981, pp. 40–41). These studies mention dogs as divine attributes, cosmic animals, sacrificial animals, building sacrifices, the companions of humans in the otherworld, in the cult of the dead and also as demons from the otherworld, corpse devourers, healers and fortune teller animals. Ancient societies probably owed the promise of prey to amulets made from their teeth.

At Balatonőszöd, a dog skeleton was found with a human one, and they also occur together with other animals (small ruminants, cattle, pigs). Dogs always appeared in the stratified pits with human skeletons (pits Nos. 203, 1612) where they were always put on top. Complete skeletons were found in pits Nos. 203, 1085, 1099, 1362, 1497, 1499, 1608, 1770, 1844 and beside human burials in pit No. 1106 (cf. [Tables 10.1–10.2](#)).

Interpretation of animal burials

Lifestyle and settlement structure

Prehistoric animal burials were first recapitulated by H. Behrens (1964) and recently by V. Struhár (2001). A. Endrődi and I. Vörös discussed the Baden finds from Hungary in detail in several studies (Endrődi and Vörös 1997, 1998) but regrettably none of the manuscripts have yet been published.⁴ The number of settlements suddenly increased in the Late Copper Age and technological innovations appeared: a new type of pottery (a new collection of vessels for liquid storage), animal keeping developed faster than ever; its products like milk, meat, wood, manure were used in a new way, and animal power was put to use as draught power in cultivation and transportation-commerce (Sherratt 1981; 1983; 1997). A. Sherratt marked the specific features of the period stressing the two major factors: “alcohol and animal traction – drinking and driving” (Sherratt 1997, p. 30). This complex process, which is called “Badenisation” to date, took place across a large territory of Europe including the Carpathian Basin (Köninger *et al.* 2001).

Despite the large number of settlements (about 1800 in Hungary), there is barely any definite archaeological evidence concerning the dwellings of the Baden culture (Horváth *et al.* 2007). As a community that herds large animals must migrate with the animals from time to time, they could have temporary or even permanent dwellings in the form of light-structure houses or large covered wagons. This would also mean that most of the settlements were temporary ones. This periodicity is excellently illustrated by the seasons when animals were killed: animals were generally sacrificed at the Balatonőszöd site from autumn to spring, which probably means that they stayed here in this period. Everyday life was mostly

confined within the settlements but the activities were performed outdoors. The number of hunted and fished animals is low (at our site aurochs were found in pits Nos. 1612 and 2635, roe deer in pits Nos. 1451, 1904, wild cat in pit No. 1657, red deer in pits Nos. 1608, 1612, and a hamster in pit No. 1608), although this proportion somewhat increases within certain geographic regions (cf. Schibler 2006). Skeletons of red deer were reported from Nitriánsky Hrádok II (Struhár 2001, p. 196); Vučedol–Gradac (Baden culture? Schmidt 1945, p. 16, T/3); 13 badger skulls from Ljubljansko Barje and a complete beaver skeleton and the bones of 3 more individuals from pit No. 80 at Vučedol-Streim (Jurišić 1989, pp. 30–31). Beaver bones were found in pit No. 197 of Pilismartót-Basaharc as well (Vörös 1979), and the same animal is known in the form of a figurine from Mödling-Jennyberg (Ruttikay 2001, p. 523). The skeleton of a doe was unearthed in a pit at Mammung (Driesch and Gerstner 1993). According to archaeozoological and palaeoecological analyses, this lifestyle can be described as “wetland nomadism”, a nomadic lifestyle in a wet environment (Schibler 1987, p. 196). The settlements were indeed connected with natural water flows along the southern bank of the Balaton.

The character of the rites

In the Neolithic, sacral phenomena and finds generally appear in the corners of houses, near hearths and in pits next to houses (Bánffy 2001, p. 61). At Balatonőszöd, the uncovered cultic phenomena appeared in open spaces all over the settlement showing certain regularities. They cannot be interpreted as family acts regarding either their quality or their appearance: instead they were collective sacrifices according to a monumental uniform choreography, or the manifestations of the cult of the dead and the ancestors.

The burial of animals with humans is explained in the context of social (status), religious and emotional (pets) motivations (Behrens 1964, pp. 161–162). V. Struhár differentiated two major groups of animal burials: the normal liquidation of individuals that were not suitable for consumption and cases when some kind of an irrational behaviour manifested itself in the community (Struhár 2001, p. 195). Is it possible with archaeological methods to distinguish the animal skeletons or skeletal parts that were buried with profane or sacral purposes? Similarly to the problem of simple human burials

or human sacrifices, it sometimes seems impossible to decide if a deliberate, partial animal burial is uncovered or a refuse pit, which was filled in with a more than average number of animal bone refuse (e.g. in cases of pits Nos. 639 and 1362). As rites have a regular, logical characteristic particular to them, the common, recurrent aspects that can be reconstructed from the recovery of animal skeletons (the method of slaughtering, the character of the burial, its positioning, the accompanying phenomena and finds, see the detailed discussion by species above and Horváth 2010 in print c) and the concurrences suggest that what we found was not accidental and not a common, profane death.

The distribution of the sacrificial pits, vessels and objects within the settlement shows clusters (ceremonial place at pit Nr. 1036, other sacrificial/ritual areas in the 'complex area': [Figures 10. 4–10.5](#)). The similarities and connections between finds, depictions and phenomena that are interpreted as cultic ones are difficult to demonstrate with archaeological methods: the data we have are not sufficient. The body of an idol was found together with animal skeletons in a 'sacrificial pit' at Aljmaš (Grammenos 2003, p. 161). The finds that are considered cultic ones at Balatonőszöd and were evidently uncovered as grave-goods in other Boleraz/Baden excavations proving that they were linked with burial rites (masks, idols, seals, footed beakers, bipartite bowls, special vessels) were generally found near animal and human sacrifices (Horváth 2010; 2010b).

The existence of combined ceremonial areas as potential scenes of communal orgies, symposia, is another argument in favour of the communal level of the sacrifices. Orgies are one of the ancient forms of religious community formation, they are occasional cleansing processes involving ecstasy, which are promoted by bloody offerings, drug consumption (alcohol, bivalves, mushrooms, vegetal concoctions) and music (compare the vessel depots of the Boleraz/Baden culture, Triton shells). It also supposes the existence of priests, whose identity is uncertain: they could be kinship leaders, heads of families (patriarch, matriarch) or they could form a separate social caste (cf. the grave of a female with a diadem in Vörs). Cultic feasts organised on a community level and the organisation of daily meals supposes the existence of table communities on a higher than house/family community levels. Table communities were generally established along lineages and

played a role in determining and keeping prohibitions concerning certain foods, taboos, and unclear/holy categories. They were the most common tools of the establishment of confraternities organised on religious, ethnic and political bases and they were also permanent sources of confrontations (Weber 2005, p. 57).

Offerings used at ritual ceremonies have diverse characters, while the sacrifices are either real individuals (real blood sacrifices) or pseudosacrifices that substitute them (animal for a human or a copy of a living creature shaped from an organic or an inorganic material, maybe in the form of an idol or a mask). Idols and anthropomorphic or zoomorphic vessels can also be grouped in the category of “pseudo-sacrifices”, although no real evidence of this has been recovered from prehistory, the same as cattle substituting humans in the Baden world. The animal chosen for sacrifice had to have the best properties: it could not be sick or imperfect (Stengel and Oehmichen 1890, p. 83). Regarding the character of the sacrifice, the gender and the age of the animal was important; this choice made up an important element of the choreography.

As can be observed, the celestial deities were invited to a joint feast during the offering, and certain parts of the sacrificed animal were offered to them. Celestial deities were the lords of the courses of the stars and being the guardians of the fixed laws that rule this sphere, they were also the lords of justice, customs and ethics in the earthly world (Weber 2005, p. 25). Their predominance over the earthly deities evolved in societies where ‘knightly culture’ flourished, meaning that charismatic social/military/religious leaders played a major role and where weaponry and social classes matching this role developed. The situation was different with the chthonic deities. They could not be invited to a joint feast, so the entire animal had to be offered to them (Stengel and Oehmichen 1890, p. 85). Accordingly, the complete skeletons uncovered at a site were offered to the chthonic deities, the partial ones to celestial deities. Regrettably, this method cannot lead to an unambiguous diagnosis regarding the unambiguous separation of white and black magic because of the natural and anthropogenic damages that could occur at these sites as well as inappropriate excavation methods.

A. Endrődi and I. Vörös observed that only a few and incomplete skeletons were found in the Boleraz period, while many (and complete) skeletons were uncovered from the later, Classical Baden period (Endrődi and Vörös 1997; 1998). The proportion of

incomplete/complete skeletons had a conceptual (celestial/chthonic) meaning according to religious historical studies, while as excavation data, they provide a relative chronology. The sacrificial pits dug into the earth are generally associated with the cult of chthonic deities and consequently the fertility cult and the cult of the dead: they are the lords of wealth, abundance and fate in the otherworld. By the means of offering sacrifices, these pits create a connection to the earthly and chthonic deities, who willingly accept the offering placed in the pits. In certain cases the pit itself is a chthonic altar (Makkay 1975, p. 168). As pits are the most common phenomena in a prehistoric settlement excavation, as at Balatonőszöd, the majority of the finds come from this feature type and it is not astonishing that sacrifices were always recovered from pits. This, however, does not mean that all of them were offered to the chthonic deities. After all, what feature type in a prehistoric settlement could be associated with offering types intended for celestial deities if not a pit?

Regarding the character of the sacrifices in the Balatonőszöd settlement, only a single feature can certainly be set apart from the rest: well No. 1099 with ten human offerings, which was made not through burning but within the context of a wet environment. Perhaps this is the only really chthonic offering in the settlement. In the following we try to categorise in a simple and combined way the aforementioned ritual rules of diverse origins as can be adapted to the Boleraz/Baden cultures:

- Female animal skeletons could be funeral sacrifices; female fertility symbols in fertility rites;
- Mature male animals could be votive offerings, the symbols of male power in fertility ceremonies, and appeasing offerings to the chthonic deities;
- Immature skeletons could be firstling offerings, the young animals could be offered to prominent heroes and ancestors;
- The large communal sacrifices could be peace offerings.

Social reconstruction according to the classification of animals

There are only a few studies that contain the complete analysis of animal bone material of a Boleraz/Baden settlement (Salgótarján: Bökönyi 1968; Gyöngyöshalász: Vörös 1983; Takács 1982–1983; Győr-Szabadrétdomb: Figler *et al.* 1997 (here, however, the

analysis of the archaeological find material is missing); Csongrád-Bokros: Vörös 2001; Arbon-Bleiche III: Capitani *et al.* 2002, [chapter 6](#), pp. 277–367). According to them the order of most frequently represented species is: small ruminants, cattle, pig, dog, horse (it is not discussed here in detail but at our site a bone from each was found in sacrificial pits Nos. 1772 and 1843). The order remains the same when we examine the animal bone material determined as refuse in the settlements of the culture, the animal bones in the grave assemblage and the rarely occurring special finds and features imbued with spiritual content (zoomorphic vessels, animal figurines, animal burials, sacrificial pits).

The high proportion of sheep, the large number of settlements, the presence of millet (as a mush cereal, of a very short ripening period; undemanding, the crop of the nomads) and the (archaeologically attestable) lack/scarcity of houses imply a mobile lifestyle. This is in sharp contradiction with the definite presence of cattle and pig (characteristic of a settled lifestyle), the appearance of real cereals beside millet, the high standard of ceramic production, the frequency of its products and the size and features of the recently completely uncovered settlements, as well as the ones the extent of which can be estimated. Thus the economic system of the Baden culture can be described as a large animal keeping, pasturing, perhaps an extensive lifestyle complete with cultivation of varying proportions within wet climatic circumstances, but it certainly cannot be called nomadic.

A social group, which distinguished itself from others by eminent values, can clearly be seen. The expression of its power could be religious and social at the same time. Archaeologically, this group can be identified by rare metal prestigious objects (e.g. the diadems at Vörs and Kakaslovník, the pectoral ornament at Velvary, the torques at Leobersdorf and Lichtenworth, the knives at Csongrád-Bokros, Balatonszemes and Sármellék; Horváth 2008, p. 162), while, in an indirect way, the offering of sacrifices can also be linked with them (the presence of a social elite, the ownership of the majority of the livestock, ordaining and assuring large, communal sacrifices). According to cultural anthropological observations, the classification of animals is imbued with strong social considerations. Taxonomy organises nature in both cases so that the social rules on marriage and the dwelling area should be confirmed and mirrored in the animal categories. The same is

reflected in the butchering methods of the animal sacrifices: a kind of anatomical totemism evolves (Douglas 2003, p. 327). The most important domesticated animals can be found among the animal sacrifices; their choreography is varied, thus the Boleraz/Baden mythological thinking was probably polytheist (we do not think of specific, personified deity figures but rather of the deification of the power that left the hero in the moment of his death; theoretical concepts, “momentary deities” or very realistic natural forces, which were perhaps personified by animal figures during the rituals). This also includes the evolution and existence of a kind of animal cult/blood cult (a totemic concept), in which a hierarchy similar to the human classifying/ranking society predominated.

Summary

The human and animal burials uncovered at the Late Copper Age settlements are considered to be the manifestations of the Transcendent, irrespective of whether the purpose was a sacrifice or simply a burial. Their separation is not impossible with the collection of all the attainable information. This is not simply the reflection of a relatively scattered and unorganised lifestyle and settlement feature but also the proof of a uniform ceremonial series composed of various rites, which composes a complex ceremonial area including a number of features.

Sheep, cattle, pigs and dogs were mostly buried in the Boleraz/Baden settlement, which subsisted largely from animal keeping. Cattle represented the same value as humans, the same burial rite was due to them: this implies a totemic, ranked society. Traces of violence and its tools could be demonstrated during the analysis of both the human and the animal skeletons (although one can kill without trace as well e.g. with bare hands). This evidence supports the supposition that certain burials were sacrifices. The character of the sacrifices can be different, although across the territory occupied by these cultures they had a uniform choreography. Most of them came from the period from autumn to spring, the majority probably during a winter cycle. The high number of sacrifices can be linked with exterior and interior conflicts. At Balatonőszöd, the separate identities of the Boleraz and the Baden communities were first demonstrated, and instead of the formerly supposed organic and peaceful Boleraz/Baden evolution, the continuous and,

according to the observed phenomena, very aggressive conquest and assimilation of the alien Baden population within a different identity arriving between 3300–3100 cal BC could be proved (10.1).

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Notes

- 1 Radošina, Boleraz (Němejcová–Pavúková/Bárta 1977, 442–443, Abb. 6. – zoomorphic vessel; 444. Abb. 7. – cart model). Other cart-models decorated with animal protomés: Boglárlelle (Ecsedy 1982, T. 8. 9. a, b). Similar depictions with the places of protomés: Mödling-Jennyberg I, Pleissing-Holzfeld, and Pilismarót-Basaharc? (Enăchescu 2004, p. 52).
- 2 Paired cattle burials in the settlements of the Baden culture: Balatonőszöd/Temetői dűlő, Pit No. 1856, Budapest/Káposztásmegyer/Farkaserdő, Dunaszentgyörgy, Hódmezővásárhely/Bodzáspart, Kaposújlak/Várdomb dűlő, Mezőkövesd/Nagy-Fertő, Pilismarót/Szobi rév, Vučedol/Streim.
- 3 Within prehistoric circumstances, the estimated “useful” meat quantity of a mature animal was the following according to Vörös 2005, p. 220: cattle 250kg, sheep/goat 25kg, pig 40kg.
- 4 I would like to express my gratitude to both authors for allowing me to use their manuscripts.

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Dealing with Deposits in the Dutch River Area: Animals in Settlement Rituals in the Roman Period

Maaike Groot

Introduction

In several Roman cremation cemeteries in the Netherlands and Germany, horse burials have been found. A ritual interpretation seems natural here, considering the context of the burials, although it is uncertain whether the horses should be seen as sacrifices to gods or companions of a deceased person (Esser *et al.* 2010; Groot 2008a, pp. 178–9, 183–4; Verhagen 1987; Riedel 2000, p. 195). The same is true for cemeteries dating to other periods: dogs and horses found in early medieval cemeteries are interpreted as grave gifts of sacrificed animals (Prummel 1992). Apparently, the special context of the cemetery is easily transferred to the animal buried within, so that none of the animals are regarded as disposed carcasses.

For settlement sites, the situation is very different. Here, burials of animals and parts of animals are also found, both for Roman sites and sites dating to earlier and later periods. Interpretation of animal burials varies from rubbish to ritual, often without clear arguments to support either interpretation. Moreover, single cases of burials are often not given any explanation at all. Animals undoubtedly died from natural deaths in the past as well as from deliberate killing, whether for consumption or ritual, but how do we distinguish between this?

If complete skeletons arouse discussion and controversy, this is even more so for articulated limbs, complete skulls and

unarticulated remains. Articulated lower limbs and skulls are still usually considered as primary butchery refuse, and unarticulated remains are what archaeologists expect consumption waste to look like. However, there are indications in some animal deposits that suggest that even remains that look like ordinary settlement refuse may have been buried within a ritual context. Analysing these deposits, their contents and location, could lead to insights into ritual and religion as it was expressed in the place where people lived. Thus, the study of special deposits is complementary to the study of funerary ritual and rituals in cult places.

This paper will present some of the evidence for animals in ritual in settlements in the Roman Netherlands, and discuss why many deposits should be seen as ritual rather than refuse. The focus is on the Dutch River Area, in the centre of the modern Netherlands and in the Roman period part of the Roman Empire. Criteria for interpreting individual deposits as ritual will be discussed, after which some recurring patterns found among deposits in the Dutch River Area will be presented. Finally, I will go one step further and attempt to reconstruct some of the rituals in settlements.

Archaeological background

The southern half of the Netherlands was part of the Roman Empire, with the river Rhine as the border. The Dutch River Area covers the eastern-central part of the modern Netherlands and coincides with the Roman *civitas Batavorum*. Habitation typically consisted of small settlements, from single farmsteads to clusters of up to five farmhouses. The agrarian economy was based on mixed farming, with barley and emmer wheat as the main cereals, and cattle, sheep, horse and pig as the most common farm animals. The military forts along the river Rhine and the towns brought a demand for food and other products to the area, and taxation in kind or money may have played a role from the late 1st century AD onwards. Both factors were a stimulus for the production of an agrarian surplus (Groot 2008a and b; Vossen and Groot 2009; Groot *et al.* 2009).

Ties with the Roman world were strong. In the *civitas Batavorum*, many men served as soldiers in the Roman army, and this had a large influence on Batavian society. Returning veterans brought knowledge about the Roman (soldier's) way of life, Roman military

building styles, Latin, literacy and the use of money (Heeren 2009, p. 166; Vos 2009, pp. 243–251; Derks and Roymans 2002). The presence of bronze statuettes of Roman gods in rural sites suggests that elements of Roman religion were also taken over.

In the Dutch River Area (Figure 11.1), animal bone preservation is excellent and several settlements have been excavated almost entirely. Two of these settlements have yielded a relatively large number of special animal deposits (Groot 2008a; 2009a). Smaller numbers or isolated deposits are known from several other sites.

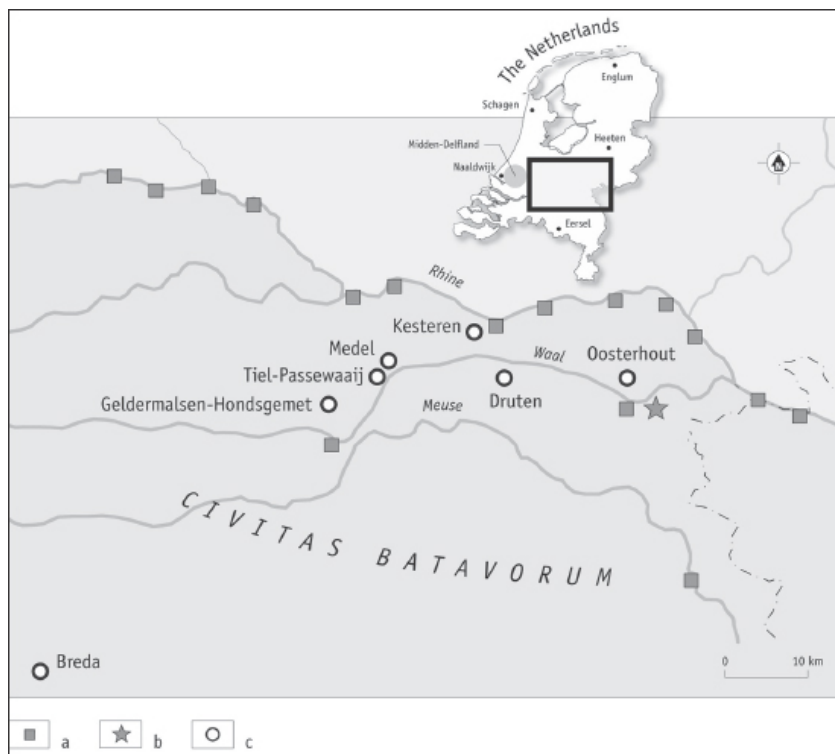


Figure 11.1: Map of the Netherlands with the Dutch River Area and the sites mentioned in the text. a: Roman military camps; b: the town of Nijmegen; c: sites in the study area mentioned in the text.

Refuse, special deposits and identifying ritual deposits

Distinguishing between ritual and rubbish is especially tricky for animal remains from settlements. After all, animals were killed for food, and the butchered remains are found in settlements. Animals

that were not eaten were killed at the end of their useful life. Some animals died from disease, which may have made them unsuitable for consumption. In both cases, a carcass had to be disposed of.

It should be clear why studies of refuse and refuse disposal are important for the analysis of potential ritual deposits. When we have a good understanding of what refuse looks like (in different regions and different periods), we are in a better position to recognise deviating deposits. Before discussing what special animal deposits are, it is useful to describe some expected characteristics of rubbish. Settlement rubbish consists of butchery and consumption refuse of consumed animals, complete or partial skeletons of non-consumed animals, discarded (broken) artefacts, preparation refuse of plant foods, rotten food and refuse from craft activities. The way in which people deal with rubbish can vary between cultures. Typical characteristics for rubbish in the Roman Netherlands are:

- Refuse is fragmentary or broken (animals are butchered, pots are discarded because they are broken).
- Refuse consists of mixed find categories.
- Refuse is deposited on the ground surface, but may end up in open features (in small numbers).
- Refuse is buried or dumped during cleaning operations. In that case larger quantities can be expected.
- Refuse is used to fertilise fields and thus disappears from the settlement.
- Refuse can be burnt intentionally during cleaning operations.
- At least some animal bones have butchery marks, since they are food remains.
- At least some animal bones have been gnawed by dogs.

Refuse does not consist of complete or still usable objects. It is not arranged in a structural way within a feature, or with regard to buildings. Preservation will be variable, depending on the time that it is left on the surface. Rubbish cannot be re-used. Bronze especially cannot be regarded as rubbish, because the raw material is valuable enough that objects are not discarded at the end of their lives, but melted and made into new objects. While the assumptions that are described here are based on archaeological observations, they are also influenced by modern western beliefs about rationality and hygiene. This is especially the case for dumped carcasses, which are assumed to have been dumped some distance from

habitation.

What are special animal deposits? Special animal deposits are animal bone finds that deviate from 'ordinary' refuse in some way, either in quantity, species, skeletal elements, fragmentation or preservation. Several types of special animal deposits are found in the Dutch River Area: complete animals, skulls, articulated limbs and concentrations of unarticulated bones. Combinations of two different types occur, but are rare. Special animal deposits are not always ritual, since for instance bone working waste also differs from butchery or consumption waste. Marking a deposit or group of animal bones as 'special' is a way of singling out finds that deserve extra attention during analysis. Only after analysing a deposit can it be decided whether a deposit could be ritual. In some cases, a special animal deposit contains the remains of a single meal. While this meal may have nothing to do with ritual (although burial of the refuse is suspicious), deposits such as this are still interesting and give insight into consumption practices. Thus, there is clearly overlap between refuse and special deposits, with refuse categories such as industrial waste, dumped carcasses and remains of individual meals all being regarded as special deposits. The challenge is to separate the ritual from the merely special.



Figure 11.2: Impression of special animal deposit of a horse's head buried with a crow and an iron knife, Tiel-Passewaaijse Hogeweg. Illustration M. H. Kriek (ACVU-HBS).

Why would we expect ritual deposits to be different from refuse? Ritual deposits are different because:

- Animal remains are buried soon after the animal's death (good preservation).
- Certain species or elements are selected (contents).
- The remains are more complete than would be expected for butchered animal remains (meat not used).

This leads us to criteria that can be used to identify ritual deposits.

Criteria for individual deposits

Interpretation usually starts with individual deposits. These are singled out in the field or during analysis because of certain characteristics. These characteristics lead to a set of criteria that can be applied to new deposits:

Associated finds that are also special in some way

Two complete bronze brooches were found with a horse skeleton at Tiel-Passewaaijse Hogeweg. The brooches were complete and closed, suggesting that they were pinning together a piece of fabric. A parallel is found at Oosterhout, where body parts of a horse seem to have been wrapped in a cloth held together by a single brooch (Van den Broeke 2002, p. 16; 2004, p. 8). A second example from Tiel is a deposit in a pit of a horse skull, a complete crow and an iron knife (Figure 11.2). Dogs were found together with pottery in two deposits. In the first deposit, a dog was buried on top of the bottom of a vessel (Figure 11.3), while in the second a dog was buried partly on top of some large sherds.



Figure 11.3: Dog buried in the bottom half of a vessel. Tiel-Passewaaijse Hogeweg.

A location with special significance

Deposits in or near houses are the best example. Of course, it is important to make sure that the deposit dates to the same period as the house. In Druten, four pits containing complete or partial horse skeletons were associated with 1st-century farmhouses (Lauwerier 1988, pp. 104–105). Two of the pits were located next to the entrance to the house. Two dog skeletons were recovered from a drainage ditch surrounding a farmhouse in Tiel-Passewaaijse Hogeweg ([Figure 11.4](#)). A single lower leg of a young horse was found in the ditch of an early Roman house at the same site. Also in Tiel, a deposit of articulated remains of sheep was found in a ditch that contained no other bone refuse, but a large quantity of pottery was found nearby. Refuse like this has been linked to abandonment rituals (Gerritsen 2003, p. 97). Deposits are also regularly found in enclosure ditches. In Geldermalsen-Hondsgemet, the skull and mandibles of a ram were buried in the fill of the settlement's enclosure ditch, right across from the entrance, where a road reached the settlement.

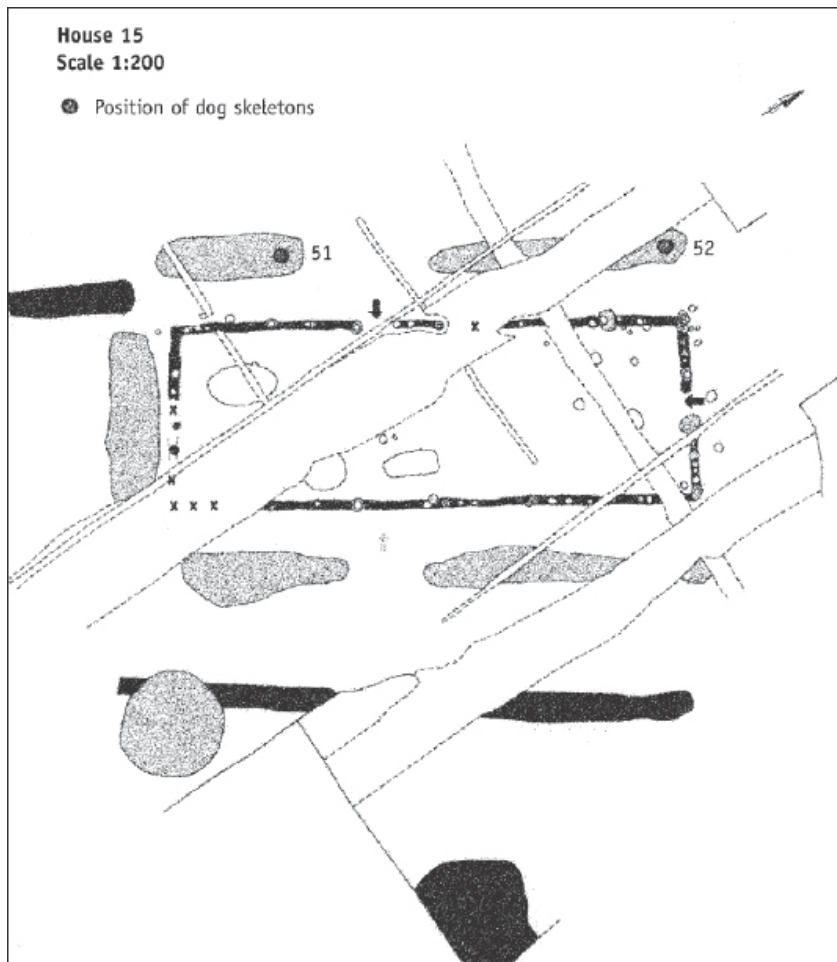


Figure 11.4: Plan of a farmhouse with two dog burials in the surrounding ditch. Tiel-Passewaaijse Hogeweg.

Arrangement of bones within a feature, or manipulation of certain elements

In some cases, there is clear evidence for the arranging of limbs within a deposit. In two deposits of a skull and lower limbs of horse, the body parts seem to have been arranged within the pit. In a deposit from Medel, the limbs are lying side by side, and in a deposit from Geldermalsen-Hondsgemet, the limbs are crossed (Groot 2005) (Figure 11.5). Probably the best example is a deposit of a female sheep where the head has been removed and replaced

by the jaws of a calf (Figure 11.7). The sheep's head was placed behind the body. Remains from two neonatal lambs were found above the sheep's back. Otherwise complete skeletons sometimes miss one or more limbs. This phenomenon was found in the horse burials in Druten (Lauwerier 1988, p. 107). One problem, however, is that this can also have a purely practical explanation, for example when the legs of a buried carcass stick out of the pit, and are chopped off. Convincing examples of this practice are described for late medieval burials of horses and cattle in the southern part of the Netherlands (De Jong 2002, pp. 79–80).

Selection of species and body parts

Some skeletal elements seem to occur more often in special deposits than others. Deposits of skulls and lower limbs are common, while those of other articulated elements are found less often. There could also be a preference for certain animal species. A comparison of the species representation in special deposits with that for the entire site should make this clear, taking into account whether a species was consumed or not. In the two sites which have been investigated extensively, no clear preference was recognised, although pig seems underrepresented.

The occurrence of wild animals, especially when buried complete

Wild animals were hunted in small numbers in the Roman Netherlands. Going to the trouble of killing or catching a wild animal, and then bury it complete, seems a waste of effort and food. Surely some motive lay behind these actions. Red deer is found twice in special deposits from Tiel-Passewaaijse Hogeweg: once as a complete animal, and once as articulated parts in combination with a complete dog. A crow is the only other wild animal in a special deposit in this site.



Figure 11.5: Deposit of a horse skull and two lower legs from Geldermalsen-Hondsgemet. Photo ACVU-HBS.

Completeness

In the case of complete animals or skulls, the meat has not been used. Cattle skulls are usually fragmented and mandibles of all consumed species routinely separated from the cranium to access the tongue and meat. Complete skulls, especially when the mandibles are attached, clearly depart from normal butchery practice. In the case of dogs, whose meat was not eaten, it is not the completeness of the skulls that is strange, but the separation of the head from the rest of the body.

More than one individual

The chance of several individuals dying at one moment is small, especially when different species are concerned. In Tiel-Passewaaijse Hogeweg, two complete skulls of horses were buried in a pit. Remarkable is that the horses were of the same age: between 7 months and 2.5 years. A second example from this site is a deposit of a complete dog and a horse's head ([Figure 11.8](#)). The deposits of a horse's head and a complete crow, and a dog and parts of a red deer (see above) can also be mentioned here.

Quantity

Large quantities of animal bones are also special deposits, since these are relatively rare in the rural settlements of the Dutch River Area. They could represent large-scale slaughter or culling of selected animals. The sometimes still articulated elements and the unbroken bones suggest an abundance of meat, that was not all utilised. Characteristic of bone concentrations is that several animals were slaughtered at once, and some of the remains buried soon after. Horse is represented in several bone concentrations, and was clearly consumed. In a bone concentration in a well in Geldermalsen-Hondsgemet, remains of six cows were found. The only fragments of other species were the skulls and mandibles of a ram and a stallion. This suggests that bone concentrations could be more than just rubbish.



Figure 11.6: Concentration of horse bones from Naaldwijk. Photo ADC.



Figure 11.7: Burial of a sheep in Tiel-Passewaaijse Hogeweg. The sheep's head has been replaced by the jaws of a calf.

While these criteria may be helpful for many deposits, there will still be deposits for which an interpretation remains elusive. An example of this is a concentration of horse ribs with butchery marks buried in a pit not far from a house, with no other refuse. This seems a clear case of consumption refuse, but the question remains why the remains from a single meal were buried instead of thrown on a rubbish heap. Once deposits are interpreted as possibly ritual, it is the repetition of motives or themes that can bring us further, and shed light on the meaning of ritual deposits.

Recurring patterns

When special animal deposits and special deposits of other find categories are analysed, several recurring patterns can be recognised (Groot 2009b). This is an argument for an interpretation of these deposits as ritual rather than rubbish. Before some of these patterns are discussed, we should address why we expect ritual to result in repeated patterns.

Ritual is highly formalised and repetitive and follows certain rules (Lewis 1980, p. 13; Merrifield 1987, p. 6; Moore and Meyerhoff 1977, pp. 4, 7–8). When deposits are made during rituals, we can expect them to follow these rules. Certain rituals

should therefore result in similar deposits. While we may not directly understand the rituals behind the deposit, we can nevertheless identify deposits belonging to a certain type of ritual. Repetition can be reflected in the contents or the location of deposits or in the treatment of the contents. The criteria described above in some cases lead from or overlap with the patterns below. These patterns can often be extended beyond the study area.

The first pattern concerns finds from wells. In this case, it is difficult to establish from animal remains alone whether a well deposit is ritual, but many special non-bone finds from wells suggest that some, at least, should be considered as ritual rather than rubbish. This does not mean that wells were never used as convenient places to dump rubbish. Single finds of a skull or skeleton in an otherwise empty well should be regarded as special and different from wells with an assemblage of bone fragments and pottery sherds. Examples of non-bone finds from wells that are clearly not rubbish are a ceramic jug and bronze vessel, a bronze helmet and an iron ploughshare (Van Renswoude 2009, p. 271; Hoegen 2004, pp. 253–254; Hoegen et al. 2004, pp. 366–367).

Wooden ladders from wells have previously been interpreted as discarded objects, but there are facts that go against this interpretation. First, these are wooden objects which could have been used as firewood. Second, one of the ladders is complete and too short to have been used for accessing the well. It was probably used to access granaries. Furthermore, it was found upside down in the well. The location of the find leads to an interpretation of the moment and intention of the deposit. Thus, a deposit on the outside of the well shaft at the bottom of the pit was made when the well was dug. Animal remains, such as skulls or dogs, within the well itself must have been thrown in after the well had gone out of use, since decomposing animal parts would quickly make the well unsuitable for drawing drinking water. Deposits in the depression left behind when the well's fill compacted could indicate a memory of the location of the well, and intentional further deposits at the same location. In Geldermalsen-Hondsgemet, for instance, a dog was buried in such a depression of a well where previously the remains of six cattle had been deposited. In the case of deposits in wells, it is possible to go further than just identifying them, and interpret their meaning. The different locations of deposits (and the different moments when the deposits were made) suggest that

wells, like houses, were surrounded by rituals regarding their foundation, use and abandonment.



Figure 11.8: A dog and a horse's head. Tiel-Passewaaijse Hogeweg. The dog has a healed fracture of radius and ulna.

A second recurring pattern is an emphasis on and manipulation of lower limbs of horse, cattle and to a lesser degree sheep. Deposits of skull and lower limbs are regularly found. While these deposits are still seen as primary butchery waste, this goes against the fact that the skull contains some meat as well as the brain; butchery and fragmentation of other skulls demonstrates that this meat was consumed. The seemingly deliberate arrangement of horse elements in a ditch at Naaldwijk is a second argument against butchery waste. Two skulls were found next to each other, flanked by a series of vertebrae on one side and metapodials on two of the other sides

(Figure 11.6). A final reason for an interpretation of these deposits as something other than butchery waste is the fact that in several cases, one or more limbs are missing. In the Naaldwijk deposit, the two horse skulls are accompanied by six metapodials instead of eight. Deposits of a single lower limb also occur.

Outside the study area, animal burials with missing limbs are also found. In a horse burial in Naaldwijk, all four lower limbs of a 12-month-old horse were missing (Groot 2008c, p. 184). No bones from these limbs were present at all, and the upper limbs bones showed no damage that would suggest later disturbance. At two sites in Midden-Delfland, legs had been removed from cattle and buried next to the body (Van Londen 2006, pp. 64, 70). Deposits of skulls and lower limbs may have consisted of animal skins with these elements attached. However, in the deposits with missing limbs, this seems less likely.

Many deposits are located in or near houses. Some examples have already been mentioned above. Deposits associated with houses are also found outside the Dutch River Area. A cattle burial was related to a house in Heeten, and dogs were buried close to houses in Midden-Delfland site 01.17 and Schagen-Muggenburg I (Lauwerier *et al.* 1999, p. 180; Van Londen 2006, p. 27; Therkorn 2004, p. 24). At Schagen-Muggenburg III a complete hind leg of a horse was buried under the threshold of a house (Therkorn 2004, pp. 47–48). Special deposits of animal remains should be seen in the same context as complete pots found in postholes: as part of a ritual relating to the building, use or abandonment of the house.

Deposits also occur regularly in enclosure ditches of settlements. Skeletons of a cow, a dog, a red deer, a complete dog in combination with a horse skull, and isolated dog and horse skulls were all recovered from Middle and Late Roman enclosure ditches at Tiel-Passewaaijse Hogeweg. For the ram skull in the enclosure ditch at Geldermalsen-Hondsgemet, the location seems especially important: across from the main entrance to the settlement (Groot 2009a, p. 392). Other deposits from this site's enclosure ditch include a skeleton of a piglet, two cow skeletons, two dog skeletons and a horse skull. Marking the boundary between settlement space and outside space seems to have been one of the aims. At Heeten, burials of cattle and horses are related to enclosure ditches. Two mark the entrance to the settlement (Lauwerier *et al.* 1999, p. 186). In Midden-Delfland, animal burials were often encountered at the

boundaries of settlement space, but also in the middle of field systems (Van Londen 2006, pp. 70, 85, 131). Finds of coins and complete pots in enclosure ditches should be seen in the same tradition as special animal deposits (Aarts 2009, pp. 293, 296; Van Kerckhove 2009, p. 183; Van Londen 2006, p. 36).

A final pattern is an association of animal remains with other finds. Next to some examples mentioned above, examples are also found outside the study area, including associations of a complete horse and a large fragment of a quernstone (Figure 11.9) and the hind legs of a foal with an unbaked axe-shaped clay object (Nieweg 2009, pp. 307–308; Van Londen 2006, pp. 131, 150). Similar to the two deposits of dogs and pottery, in Englum the skull, feet and tail of a dog were found under a pot placed upside down, while in Midden-Delfland a dog skeleton was deposited in a ditch next to a partial Belgic ware pot (Nieuwhof 2007, pp. 222–223; Prummel 2007, pp. 152–153; Van Londen 2006, pp. 40, 43). Reminiscent of the pit containing a horse skull, crow and iron knife is a burial of a horse skeleton and iron knife in a cemetery in Cologne (Riedel 2000). In both cases, the knife may have been used to kill the horse.

Sacrifice

When dealing with the use of animals in ritual, the concept of sacrifice is important. While live animals may also have played a role in certain rituals, with few textual sources and images available for this period and region this remains invisible to us. During sacrifice, a person or animal is deliberately killed for or within a certain ritual and its body or spirit offered to gods or ancestors. When an object is sacrificed, it is taken out of circulation. Food can also be offered, and is often burnt during the offering. Killing a living being, destroying an object or burning food all transform the thing that is sacrificed. This transformation is necessary for the sacrificed victim or object to pass from the secular to the sacred world. Sacrifice is a group event: the responsibility and reward are shared by the community (Green 2001).

Sacrifice not only offers supernatural rewards for the participants, but also one that is very much of this world: the sharing of meat of the sacrificed animal. The relation between sacrifice and consumption is well-known, for instance for temples, where parts of an animal are reserved for the priests. In the context of a

settlement, the meat of a sacrificed animal may have been shared by the entire community. Deposits of entire animals with no evidence of butchery demonstrate that this did not always happen, but deposits of skulls or articulated limbs may represent the part of a sacrificed animal that was offered to the gods, with the rest being consumed. In archaeology, one way of recognising sacrifice is to look for evidence of deliberate killing. In two deposits from the Dutch River Area, horses show evidence of having received a blow on the head. For most animal burials, the cause of death cannot, unfortunately, be established. Just as a sacrificially killed animal can still be consumed, so can an animal that died a natural death still be buried ritually. With limited understanding of how (infectious) disease spread among animals, burying a diseased animal in a ritual manner may have been believed to have prevented any further victims (see Broderick this volume). Therefore, sacrifice is an important part of but not strictly necessary for ritual.

Reconstruction of ritual systems

The interpretation of individual deposits as ritual and the recognition of recurring patterns are a first step in reconstructing ritual systems. A complete reconstructed ritual system of a society should include all aspects of that society, such as life, death and religion. Ideally, different types of sites are considered: settlements, cemeteries, cult places. In this article, however, the ritual system will be limited to settlement rituals.



Figure 11.9: Horse buried with a large fragment of a quernstone. Den Haag-Wateringseveld. Photo Gemeente Den Haag, Afdeling Archeologie.

It is important to remember the consequence of our archaeological data: we are only dealing with buried remains and objects. Any rituals that did not involve burying stuff will be very difficult to reconstruct. Organic materials kept above ground are likely to have decayed or ended up with general refuse. What is the meaning of burying things? When something is buried, it is taken out of use (comparable to throwing weapons in rivers, for example), but its physical presence remains in the settlement, close to home. The underground location may have been important in itself, as being closer to supernatural beings or referring in an ‘agrarian sense’ to the earth as ‘fertile ground’.

It is possible to draw some tentative conclusions about the nature of settlement rituals from the deposits found in the Roman Dutch River Area, and take a first step in reconstructing the ritual system for this society.

First, the construction, use and abandonment of both houses and wells seems to have been marked by rituals, so-called rites of passage, in which animal remains or artefacts were deposited underground. Foundation offerings can be complete pots or coins, buried either in one of the main weight-carrying postholes in the axis of the building or in the ditch surrounding the house (Heeren

and Van Renswoude 2006). Complete animals buried in pits under the house, as in Druten, are also foundation deposits. Deposits consisting of complete pots or strainers are found in the core or upper fill of postholes of granaries (Van Kerckhove 2009, p. 157). Obviously, these objects can only have been left there after the pole was removed and must therefore be abandonment deposits (or deposits made during a repair to the building). Deposits may also have been made during the active life of the building, but these are harder to identify. In other regions, deposits consist of varied objects, and foundation deposits occur under the threshold, under the hearth, in wall ditches or in the corner of houses (Van Londen 2006, pp. 36, 147–149; Therkorn 2004, pp. 48–49). Rites of passage also occur in the stages of life of people, where birth, coming-of-age, marriage and death are surrounded by rituals. Archaeologically, rites of passage for people are most visible in funerary ritual.

A second ritual emphasised the marking of boundaries of the settlement. Deposits were made in or near enclosure ditches, in some cases with an emphasis on the entrance to the settlement. Deposits can consist of complete or parts of animals, pots or coins. Coins in Geldermalsen-Hondsgemet are concentrated in the western corner of the settlement enclosure, and on one side of the entrance to the settlement (Aarts 2009, pp. 293, 296). Entering or leaving the settlement was clearly accompanied by the ritual throwing of a coin in the ditch. The burial of domestic livestock within the enclosure ditch in Heeten, and that of a red deer on the outside suggests that deposits also emphasised the difference between ‘domestic’ and ‘wild’ (Lauwerier *et al.* 1999, p. 181).

Feasting could explain large concentrations of unarticulated bones. These concentrations are characterised by an abundance of meat, coming from a number of animals killed at the same time. Preservation is very good, which suggests that the bones are the remains of a single event and not an accumulation of months of refuse. Usually, only one or two species are represented, and several deposits are characterised by the overrepresentation of horse bones (Groot 2008a, p. 136). Skeletal element representation shows that not all bones were buried. The problem at the moment is that only a handful of bone concentrations are published. There may be more that are published as part of an entire assemblage. It is important to explicitly describe contexts like this, in order to find out if these are indeed the remains of feasting. While feasting is a social event and

not necessarily religious, the burial of refuse from feasting could have been surrounded by rituals. The inclusion of skulls of a male sheep and horse in a deposit of bones of six cattle is the best example we have at the moment.

While we are limited by the archaeological data, ethnographic studies can supplement the rituals we can reconstruct with ideas about rituals that may not have resulted in archaeological remains. What kinds of rituals do we expect to find? In an agrarian society, fertility rituals must have played an important role. And yet there is little evidence for fertility rituals in the Dutch River Area. This absence can be explained by the location of such rituals – when they are concerned with growing crops, they may have taken place in the fields – or by their nature – for instance, adorning or decorating animals instead of killing them. The places where crops were stored and livestock stabled may have been the focus of ritual, but if objects were placed above ground (visibility could be important to ward off evil), they remain invisible to us.

The value of offerings is difficult to measure, since it is not always possible to assess the loss of the animal or object to the owner or the community. When the amount of meat is considered, a deposit of a cow seems more valuable than one of an old dog. On the other hand, if the dog was an experienced and valued hunting dog, and the cow barren, then the dog could well constitute the more valuable offering. For some deposits, it is somewhat easier to assess value. When wild animals are buried complete, we know that people made the effort to hunt or catch them without any direct practical benefits, such as meat or hides. Some of the pots selected for foundation offerings have manufacturing flaws, and can be seen as secondrate offerings (Heeren and Van Renswoude 2006, p. 236). Paleopathological evidence from special animal deposits is interesting, but inconclusive. A dog with a healed fracture, for instance, may have been valued as a companion or hunter and thus been treated after its injury, or it could have been discarded as a useless lame dog (Figure 11.8).

Conclusion

What does the future hold for the study of settlement rituals? Synthetic studies of ritual are still rare (at least for the Netherlands), and diachronic studies are non-existent. As in other

archaeological fields, studies of ritual are usually limited to one time period. Of course, such studies are challenging, since the meaning behind similar-looking deposits may have changed over time. Nevertheless, diachronic studies of ritual deposits could be very useful for our understanding of ritual, since there seems to be a good deal of continuity in certain types of deposits and rituals. Special deposits of animals in periods before and after the Roman period suggest that burial of animals or parts of animals was a long-lasting tradition. In medieval Eersel-Kerkebogten, for example, burials of cattle are associated with farmhouses and therefore less likely to be dumped carcasses. Problems with interpretation occur for most periods, but for later periods written sources may be able to explain certain deposits or rituals.

An aspect that can and should be addressed sooner is the inclusion of different material categories. A horse skeleton, a complete pot and a coin hoard may have more in common than we think. They may or may not have been buried within a ritual context, with certain intentions and beliefs. The problems involved in researching this phenomenon and reaching an interpretation are similar for the different find categories, and yet they are usually analysed and published by three different people. Of course, it is necessary for three different specialists to investigate the finds, to identify for instance the animal species, type of pottery and dates of the coins. Specialists should indicate in their contributions to site reports what they consider 'special' finds, without having to label them as ritual or non-ritual. As mentioned above, even the refuse from an individual meal is special, and will provide information that cannot be concluded from dispersed and mixed refuse. What is then needed is for someone, either one of these three people or a fourth person, to be aware of the separate finds and look at them from a wider perspective.

Once deposits of different find categories are analysed together, a shift should be made in our perception. The enormous variety in deposits suggests that our present categorisation based on content and material (cow skeleton, dog skull, coin, pot, ploughshare, wooden ladder, flint etc.) is not very useful in understanding the choices made by people in the past. These choices may have been based on other kinds of labels, such as agrarian objects (cow, cereals, ploughshare), objects related to the house (dog, cooking pot, food), things from outside the settlement (red deer, wood, coin)

and things from the past (Neolithic axe). An inventory of what is and more importantly what is not included in deposits should be made. We can then find out whether certain kinds of objects can be related to certain locations and types of ritual, and this will help our understanding of the meaning and purpose of these rituals.

There is also a task for the archaeologists in the field, in making sure that any special deposits, whether of animal remains or other finds, are excavated with care and recorded in detail. Even better would be if the excavation of special deposits is an explicit part of the strategy, since this affects any choices made during excavation. For small excavations, data are more important than interpretations, since it will be very difficult to reach an interpretation without parallels. When more data of good quality are available, we can progress to synthetic and diachronic studies.

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Sheep Foundation Burials in Roman Winchester

Mark Maltby

Introduction

The deposition of animal carcasses in Iron Age and Roman Britain has been the subject of much discussion in recent years. So-called “special deposits” consisting of complete or partial skeletons, articulated limbs or skulls were first defined by Grant (1984). Such deposits have been found at many Iron Age hillforts and other settlements, most notably in disused pits but also in other feature types. They consist mainly of domestic animals but occasionally deposits of wild species of mammals and birds have been encountered. Interpretations of these deposits have varied but most of the recent discussions have favoured a ritual interpretation, viewing the burials as votive offerings (e.g. Cunliffe 1992; 2000; Hill 1995). In studies of the Romano-British period, most attention on the possible ritual deposition of animals has centred on finds in wells or other deep shafts (e.g. Fulford 2001; Woodward and Woodward 2004) or on finds associated with temple sites (e.g. Levitan 1993; Legge *et al.* 2000; King 2005).

This discussion will draw attention to another distinctive type of deposition, which has been recorded in a number of Romano-British towns and villas. Discrete groups of bones of one or more sheep have been found within buildings or in features adjacent to defences or other boundaries. These remains often show evidence of butchery and burning. Details of such groups found in later Roman deposits in the *civitas* capital of Winchester (*Venta Belgarum*), Hampshire, in southern England, will be described and compared

with similar finds from other towns and some other settlement types. The possible significance of these depositions will be considered in the conclusion.

Sheep depositions in Roman Winchester

Excavations of various extra-mural sites and in areas adjacent to the Roman defences have produced large assemblages of animal bones (Maltby 2010). These have included several deposits of associated groups of bones of lambs and older sheep.

Victoria Road West Building 2

This mid-2nd to 3rd-century timber building was located in the northern suburb of Winchester outside the urban defences ([Figure 12.1](#)). Bones were recovered mainly from floor deposits. The assemblage includes two discrete groups of associated sheep bones. The first was recovered from a posthole and consists of 67 bones of a hornless ewe. Most of the major bones of the skeleton are represented, although some small bones are missing and most of the vertebrae and some of the hind limbs survive only as fragments ([Table 12.1](#)). The tooth ageing and epiphyseal fusion data indicate that the sheep was about 30–36 months old.

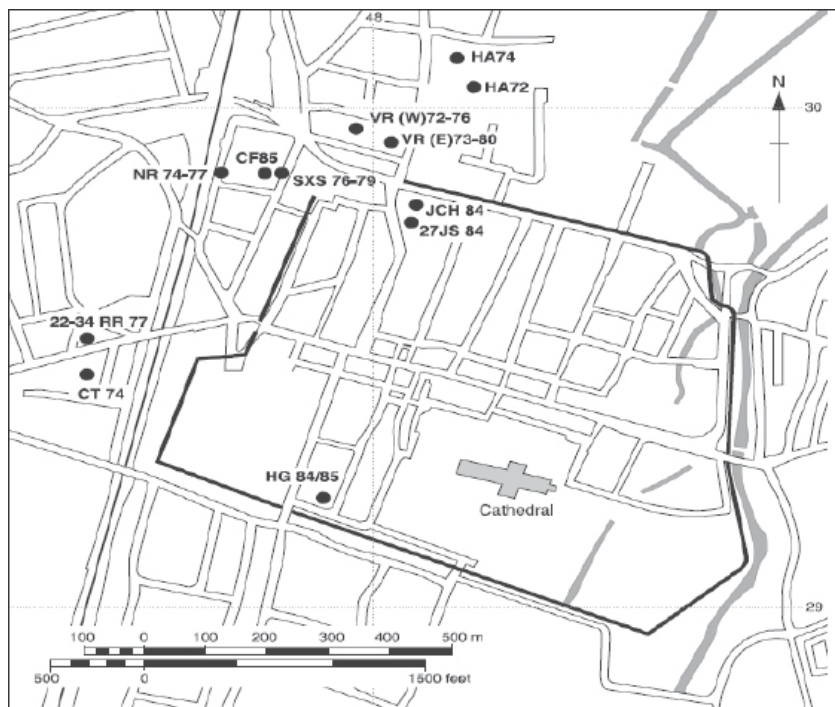


Figure 12.1: Map of Roman Winchester including locations of the following sites discussed in the paper: HA = Hyde Abbey; VR (E) = Victoria Road East; VR (W) = Victoria Road West; JCH = Jewry Street Crown Hotel; HG = Henly's Garage. Source Maltby (2010, p. 13).

Butchery marks are present on six bones. Three ankle bones (both calcanea and an astragalus) bear sharp incisions. These marks were made during initial skinning and disarticulation. A chop mark through the proximal end of a tibia shaft provides evidence for dismemberment of the upper hind leg. The tibiae have been broken into two or three pieces. The pelvis also bears incisions, and a lumbar vertebra has cuts made where the flanks were separated from the spine.

One of the centroquartals (also part of the ankle) is slightly charred. These observations indicate that the sheep was skinned, at least partially dismembered and probably filleted. The burnt centroquartal suggests that the carcass was roasted, perhaps on a spit. However, it seems that many of the dismembered bones were subsequently collected and deposited together.

Over sixty bones of a second sheep were found under the floor of

the same building. Again bones from most body areas are represented ([Table 12.1](#)), although several have been fragmented by ancient breakage including butchery. This skeleton also has marks associated with skinning and the disarticulation of the front (carpal) and hind feet (astragalus and centroquartal). There are also axial chop marks through the distal joint surface of a femur made during dismemberment of the upper hind limb. Both halves of the pelvis have also been chopped through where the hind limb was separated from the hip.

Only two of the 17 vertebrae recovered have survived complete and butchery was observed on 11 of these. The axis (2nd cervical vertebra) has been chopped through when the carcass was beheaded. Five thoracic and three lumbar vertebrae have been chopped through axially indicating that the trunk of the body was split into roughly equal sides. A thoracic vertebra has been chopped through transversely where the spine was further segmented. The sacrum has also been chopped through the sacro-iliac joint when it was separated from the pelvis.

ELEMENT	VR(W) B2	VR(W) B2	HA B1.7	VR (E) B1.23	JCH Ramp*	HG Pit F152
Skull frag	1	1	1		3	1
Mandible	2	2	2		6	2
Loose teeth			1			
Hyoid	1				1	1
Scapula	2	2	2		5	2
Humerus	2	2	2		4	2
Radius	2	2	2		4	2
Ulna	2	1	2		4	2
Pelvis	2	2	2		4	2
Femur	2	2	2	1	4	2
Patella		1	1		2	2
Tibia	2	2	2	1	6	2
Carpals		3	7		7	12
Astragalus	1	1	2		2	1
Calcaneus	2	2	2		4	1
Centroquartal		1	2		3	2
Other	2				2	5
Tarsals						
Metacarpal	2	2	2		3	2
Metatarsal	2	1	2		5	2
Metapodial					1	

Phalanx 1	4	6	7	9	8
Phalanx 2	3	3	3	7	7
Phalanx 3	2	3	3	4	6
Sesamoids				1	7
Atlas	1		1	2	1
(VC1)					
Axis (VC2)	1	1	1	2	1
Cervical V	2	3	5	4	9
Thoracic V	7	8	9	10	21
Lumbar V	4	5	8		10
Sacral V	1	1	1	1	2
Caudal V			4		1
Ribs	7	3	19	5	11
Costal	5				
cartilages					
Sternebrae	1	1	2	1	1
Total	67	61	99	24	150
					122

Table 12.1: Anatomical elements represented in the Winchester sheep burials.

A pair of sheep mandibles and a small portion of skull from the same context probably belong to the butchered skeleton. Tooth ageing evidence indicates that the jaws are from a sheep of about 18–22 months of age. This age estimate is supported by the epiphyseal fusion data.

The carcass of this sub-adult sheep was skinned and extensively butchered, although in this case there is no clear evidence of roasting. Most parts of the butchered carcass were subsequently collected and deposited together under the floor.

Hyde Abbey Trench XI Building 1.7

A posthole from a second later Roman timber building located on another extra-mural site in the northern suburb ([Figure 12.1](#)) produced nearly 100 bones of a butchered sheep skeleton. This belonged to an immature sheep that possessed horns. The tooth eruption and epiphyseal fusion evidence indicate that the animal was about 8–12 months old. Again, bones from all parts of the carcass were deposited ([Table 12.1](#)), but at least 19 of the bones bear butchery marks. Processing marks are most prevalent on the vertebrae. The atlas (1st cervical vertebra) has transverse knife cuts made during decapitation. The axis bears superficial transverse chop marks probably inflicted during the same process. Ten

vertebrae have been chopped through when the trunk was divided into two roughly equal halves. A knife cut on the ventral aspect of another thoracic vertebra may have been made during filleting or removing internal organs. One of the ribs bears an incision made when it was detached from the vertebral column. No processing marks are evident on the pelvis or upper limb bones but knife cuts are present on the proximal end of a metacarpal, and on an astragalus and a centroquartal. These marks were made during initial skinning and disarticulation of the feet. The other astragalus is completely charred.

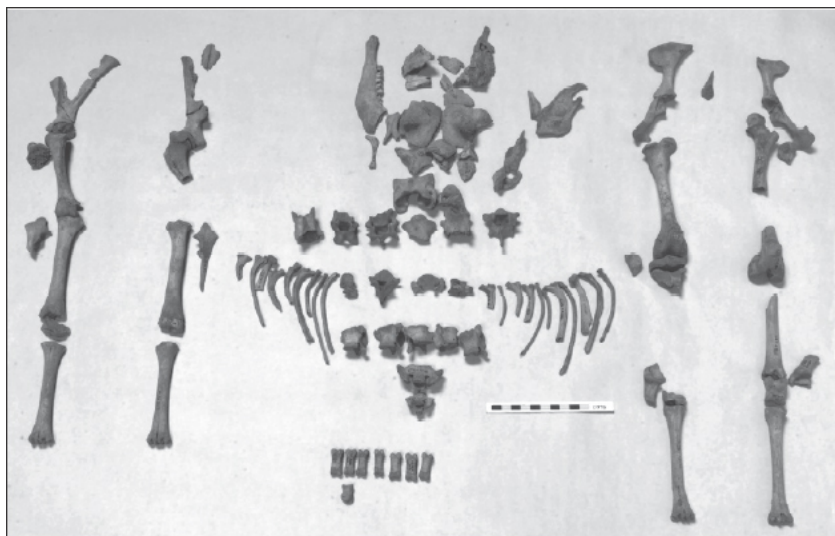


Figure 12.2: Bones of sheep skeleton from Hyde Abbey site Building 1.7.



Figure 12.3: Butchered centroquartal, astragalus and cervical vertebra from sheep skeleton from Hyde Abbey site Building 1.7.

The taphonomic evidence therefore indicates that this young sheep was slaughtered, skinned, probably roasted on a spit and heavily segmented prior to the final deposition of many of its bones at the base of a posthole.

Victoria Road East Trench X Building 1.23

A posthole associated with a major modification of a third later Roman timber building in the northern suburb ([Figure 12.1](#)) produced 24 bones of an immature sheep skeleton. The bones consist of several vertebrae and ribs and the right femur and tibia ([Table 12.1](#)). There is no evidence of charring on any of the bones. However, butchery marks are present on three vertebrae including an atlas which was cut during decapitation. Epiphyseal fusion data suggest that the sheep was probably less than 24 months old.

Jewry Street, Crown Hotel Rampart

A pit near the heel of the late-2nd century rampart near the North Gate ([Figure 12.1](#)) produced 150 bones from two immature sheep. Most of the bones came from the lower fills but others were found in the upper and middle fills. Because of the admixing and fragmentary nature of some of the bones, it was not possible to assign them all to individual skeletons.

The first carcass is represented by bones from all areas of the body ([Table 12.1](#)). The ageing data indicate that it belonged to a

lamb aged between three and five months old. The morphology of the horn cores suggests that the lamb was male.

This carcass has also been heavily processed prior to final deposition. Segmentation marks are present on five vertebrae. Both halves of the pelvis bear superficial chop marks made during disarticulation from the hind limbs. The shafts of a humerus and femur have been chopped in two. Both tibiae have also been broken into two and the distal halves are completely charred. Evidence of burning is also evident on an astragalus, centroquartal, both metatarsals and a first phalanx.

The second skeleton from this pit is from an older hornless sheep that is also represented by bones from all parts of the body ([Table 12.1](#)). Tooth ageing data suggest that the carcass is from a subadult sheep aged between 15 and 18 months old. This is supported by the epiphyseal fusion data.

Processing marks were again recorded on several bones. A cut mark on the top of the skull was probably incurred during skinning. The atlas bears transverse knife cuts inflicted during decapitation. Another cervical vertebra has been chopped through transversely where the vertebral column was segmented, and a lumbar vertebra bears superficial chop marks made when the body was split into two roughly equal halves. Three rib heads, probably from this older sheep, have evidence for corresponding incisions or superficial chops. Segmentation chops are present on both humeri, both femora, both tibiae and a radius. The pelvis bears both superficial chop marks and knife cuts. A femur has corresponding incisions around its proximal ball joint made during the disarticulation of the hip. The distal half of the same femur bears superficial chop marks probably made when it was separated from the tibia. Finally, a centroquartal bears incisions. The distal end of one of the tibiae is charred.

These marks clearly indicate that both sheep carcasses were skinned, cooked, segmented and filleted. The bones were subsequently collected and deposited in the pit. There was about a 12 months age difference between the two sheep and it is therefore probable that their processing and deposition formed part of the same event.

Henly's Garage Pit F152

The final example was found during excavations of an area just

within the town's southern defences ([Figure 12.1](#)). The assemblage consists of 122 bones of an immature sheep extracted from a sieved sample from one of a line of postholes that marked out new boundaries following the widening of the rampart in the late 2nd century. The group consists of a virtually complete skeleton lacking only a few of the smallest bones of the feet, and some vertebrae and ribs ([Table 12.1](#)). The ageing data indicate that the carcass is from a lamb aged between six and eight months old. The skull is hornless and the morphology of the pelvis is more characteristic of a female than a male.

Although the carcass is largely complete, there is again abundant evidence for disarticulation and processing. Butchery marks are present on at least 33 bones. Fourteen vertebrae have been chopped through near the edge of the vertebral body where the trunk was split roughly into two halves. A corresponding chop is present on a rib head. Six other ribs bear incisions on various parts of their shafts made during filleting and the removal of internal organs. Two vertebrae have been chopped through transversely at points where the spine was segmented. The atlas bears an incision made during decapitation. Both sides of the pelvis also bear butchery marks associated with dismemberment. The left femur bears a superficial chop mark on the proximal ball joint that corresponds with one of the chops through the pelvis. Both femora have been broken, one of them into four pieces. A superficial chop mark on the distal end of a tibia indicates the point where the feet were separated from the upper hind limb. Skinning cuts are evident all around one calcaneus. Corresponding marks are present on the adjacent astragalus. Finally, one of the carpals bears a cut made during skinning and the possible separation of the feet from the upper forelimb. Charring is evident on another carpal and on the sternum. These locations are again those commonly damaged by fire when roasting animals on a spit.

Staple Gardens

The presence of an associated group of sheep bones has also been noted in later Roman deposits from this intra-mural site (Maltby 1986). Twenty-three bones of a carcass were found in a posthole of a fence line that ran along the edge of a bank and ditch. The skull, mandibles, hyoid, three cervical vertebrae and several bones of both forelimbs and hindlimbs were recovered. It is uncertain whether all

the deposited remains were retrieved but the fact that all parts of the body are represented implies that a largely complete carcass was originally deposited. Tooth eruption data indicate that these bones are from a lamb of about three months of age. However, unlike the previous examples, no butchery evidence or burning was noted on any of the bones.

Summary of the Winchester Groups

Discrete groups of one or two sheep burials have been recorded on six sites. Although none of these skeletons are complete, all parts of the body are usually represented ([Table 12.1](#)). Sieving of some of the deposits involved demonstrated that some of the smaller bones of such skeletons may have been commonly overlooked during normal excavations methods.

Most of the carcasses have evidence for systematic processing. All the butchered skeletons show marks commonly associated with skinning and segmentation. Several also have evidence of filleting. In four cases there is evidence of charring on bones, usually of the lower hind limbs but occasionally on bones from other parts of the body. These bones therefore were exposed to fire probably when the carcasses were roasted on a spit.

It can be argued that these groups simply represent well-preserved examples of everyday methods of processing and cooking sheep. Other sheep bones found in the excavations sometimes have very similar butchery marks to those observed on these skeletons and other charred sheep/goat bones have also been occasionally discovered. The carcass processing methods were not necessarily unusual.

However, unlike the majority of sheep eaten in Winchester, it seems that in these cases many of the bones of the butchered animals were collected after cooking and consumption of the flesh and buried under floors or walls of houses or in other sub-surface features. The discrete burial of the bones within these buildings may indicate that the consumption and deposition of the sheep was associated with a ritual or ceremonial event, perhaps linked with the foundation of, or major alterations to, the houses. In the case of the sites near the defences, the depositions could be related to the redefinition of property boundaries following the widening of the rampart in the late 2nd century. An inurned human cremation burial (Jewry Street, Crown Hotel) and a complete pot (Henly's

Garage) were placed in other features that marked the same boundaries as the features containing the sheep. In Winchester, it appears that sheep were the usual species selected for such ceremonies. Most of these animals were immature and of a size suitable for spit roasting.

Although substantial numbers of other animal burials were deposited in some of the disused wells and other shafts in the northern suburb sites (Maltby 2010), only one of the excavated shafts included a sheep burial. This partial skeleton consists of 26 bones of the head and feet of a lamb aged between two and four months old. Fine incisions indicative of skinning are evident on the left calcaneus and astragalus. The head and feet were probably attached to the skin when this was first removed for further processing. This group, however, differs from the others described above in that it does not include the major meat-bearing parts of the carcass.

Sheep depositions in other major Romano-British towns

Chichester

Several associated groups of sheep bones were recovered on the extra-mural Cattlemarket site in the *civitas* capital of Chichester (*Noviomagus*), which lies about 40km to the east of Winchester (Levitan 1989). As in the case of Winchester, and in contrast with other species, most of the sheep burials were not found in pits or wells. Only one skeleton of an immature ewe was found in a pit. Three groups were deposited in postholes, two of which were from immature lambs with no clear evidence for butchery. The third group, however, has close parallels to the Winchester depositions. Bones from all parts of a skeleton of an adult ewe were recovered, although only the left side of the body appears to have been buried. Burning was observed on the atlas, a calcaneus and a first phalanx. Butchery marks were recorded on a lumbar vertebra and a femur. Although Levitan (1989) queried whether the femur was successfully disarticulated from the pelvis, this group has many similarities to the butchered sheep skeletons in Winchester. Despite Levitan's reservations, the butchery marks on the vertebra and femur do indicate segmentation. Evidence of burning on the neck and limb extremities also suggests that the (possibly beheaded)

carcass could have been roasted on a spit before (some of) the bones were collected and placed in the posthole of a building as a foundation deposit.

Cirencester

A butchered sheep skeleton was found in a deposit associated with a 3rd-century building in the intramural St Michael's Field site in Cirencester, another *civitas* capital (*Corinium*), in Gloucestershire, that lies about 90 km to the north-west of Winchester (Levitan 1990). The assemblage consists of 65 bones of a hornless adult ewe. Most parts of the body are represented although small bones, particularly from the feet, may not have been deposited or were not retrieved. Butchery marks made during the removal of the ribcage were observed on several thoracic vertebrae and incisions were recorded on the calcaneus. There is no mention of burnt bones but it seems likely that parts (or all) of a butchered sheep were collected and deposited in the building. Small numbers of bones from a foetal lamb were found in the same context. If these belonged to the butchered ewe, it suggests that offal could also have been deposited.

Dorchester

Amongst the large assemblage obtained from the intra-mural Greyhound Yard site in the *civitas* capital of *Durnovaria* at Dorchester, Dorset, situated 85km west of Winchester (Maltby 1993), the closest parallel to the specimens from Winchester was discovered in a shallow pit adjacent to the rear of a late 1st- to early 2nd-century timber building. A partial sheep skeleton was recovered, consisting mainly of ribs and vertebrae, but also including the skull, mandibles and several foot bones. Butchery marks were recorded on the skull, axis and a thoracic vertebra. This belonged to a carcass that had been decapitated and at least partially segmented prior to deposition. However, no evidence for cooking was observed on these bones and none of the upper limb bones were recovered.

Elsewhere in Dorchester, a pit from the Colliton Park excavations of a large townhouse produced a substantial part of an immature lamb and the head, neck and foot bones of an adult sheep but no evidence of butchery was recorded on either of these (Hamilton-

Dyer 1993). The latter may have been the remains of skinning waste. Assessment of bones from the Charles Street excavations situated near the Greyhound Yard site (Maltby 1990) revealed the presence of 56 bones from two immature sheep skeletons in an occupation layer. These include an astragalus with knife cuts, indicating that at least one of these sheep had been partially processed.

St Albans

A shallow pit cut into the back of the military rampart at *Verulamium* was dated to AD 61–75. It contained two sets of articulated vertebrae of sheep/goat (Marples 1984). No ribs and only a few limb bones and a mandible fragment were recovered. There is no comment as to whether any of the bones were butchered, or whether the vertebrae formed the complete spine, or just segments of it. However, it was noted that many of the unidentified bones in the deposit were burnt. This may therefore represent a deposit of two, or perhaps three, sheep/goat, which may have been butchered, cooked and the residues subsequently collected and deposited together. The nature of the remains and their location is reminiscent of those found in boundary features adjacent to the Winchester defences.

London and Southwark

A small number of bones from a lamb were retrieved from a make-up layer associated with the construction of a building in Southwark (Ainsley 2002). The group includes a mandible, scapula, metapodials and one vertebra. Despite the lack of butchery marks, it was argued that the carcass had probably been processed. It is possible therefore that this was a foundation deposit. A sheep foundation burial was also reported beneath a building in Leadenhall Court in London (Perring 2002, p. 198). However, despite substantial excavations in recent years, no further examples have been recovered either within the walls of *Londinium* itself or in its satellite urban conglomeration on the opposite bank of the river Thames.

Silchester

Substantial excavations have also taken place within the *civitas*

capital of Silchester (*Calleva Atrebatum*), Hampshire, about 35km to the north east of Winchester. Fulford (2001) has described groups of animal bones partially recorded from a townhouse in *Insula XXVII*. Deposits of bird bones were found in one room, while in another there was a deposit of a very young lamb seemingly associated with three pots. Unfortunately there is no surviving record from these early excavations pertaining to which body parts were recovered nor whether any of the remains were butchered or burnt. However, the provenance is similar to those from the buildings in the northern suburb of Winchester.

Discussion

This survey has revealed that distinctive discrete groups of sheep bones have been found in Winchester and several other major Roman towns in southern England including Chichester, Cirencester, Dorchester, London and possibly Saint Albans and Silchester. The practice seems to have been associated with the dedication of new buildings or in their refurbishment or with the marking or realignment of urban and other boundaries.

Perring (2002) noted the presence of burials of several species of animals, including sheep along with other types of foundation deposits including human remains and complete pottery vessels and Zant (1993) has noted the deposition of dogs and fish beneath buildings within the defences of Winchester. However, it seems that sheep were the species most often chosen, at least in these major towns. It remains to be seen if this pattern has a wider distribution.

This research has so far not been extended to include a comprehensive survey of other types of Roman settlements in Britain and the continent. However, a small-scale review of sites within the vicinity of Winchester has not produced evidence of any similar depositions on rural sites in its hinterland. There are no examples from the early Romano-British feature at the rural settlement at Winnall Down/Easton Lane (Maltby 1985; 1989), two kilometres to the east of Winchester.

In the very large assemblage from another rural settlement at Owslebury, 8km to the south-east of Winchester, the main groups of associated sheep bones consist of the heads and feet of sheep found in several pits of late Roman date, that are probably associated with processing of skins (Maltby 1987; 1994; Morris 2008). Elsewhere on

the site, 38 bones from the lumbar region of the spine and the hindlimbs of a sheep were found in the upper layers of a Roman ditch. However, this differs from the examples in Winchester in that not all parts of the body are represented and the sheep was found in close proximity to a horse partial skeleton. A 1st-century AD track gully produced a group of 41 ribs and vertebrae of an immature sheep/goat but no other parts of the carcass were recovered. Another partial skeleton was found in another early Roman ditch and this group did include bones from all parts of the body of an adult ewe, together with a few bones of an associated foetal skeleton. An early Roman pit produced a partial skeleton of an immature sheep, which was again one of a number of associated groups of several species. In none of these cases is there any evidence of butchery or burning.

To date, no assemblages from villas near Winchester that have been examined. However, there are possible examples from the villas at Great Bedwyn, near Marlborough in Wiltshire (Payne 1997) and Barnsley Park, Gloucestershire (Rawes 1978). At Northfleet Roman villa in Kent two heavily butchered sheep skeletons were found in small pits, one of which was cut by a wall of a building (Worley unpublished). Charring was observed on an astragalus of one of the sheep and both carcasses had clearly been dismembered prior to final deposition. Further afield in Yorkshire, the Roman roadside settlement at Shiptonthorpe has produced partial skeleton of a butchered sheep (Mainland 2006; Morris 2008, p. 217) and other partial sheep skeletons have been found in association with buildings at Rudston villa, although no butchery was recorded on these specimens (Chaplin and Barnetson 1980).

Beyond Britain, there are many examples of the deposition of complete and partial animal skeletons from Roman sites in the Dutch river area (Groot 2009). However, relatively few of these belong to sheep and there are no examples of depositions of associated groups of sheep remains that have been butchered and cooked that are directly associated with buildings.

As noted in the introduction, associated groups of animal bones of many species from British Iron Age sites have occurred frequently on many sites and have received a great deal of attention. However, not many of these provide close parallels to the skeletons recovered from Winchester. Very few are directly associated with houses or other structures. Many have been found

in pits and other sub-surface features (Morris 2008). Partial and complete sheep skeletons are included in these finds and some of the partial skeletons have evidence of butchery. However, very few cases have clear evidence of any burnt bones and many of the skeletons remain in partial articulation (where recording of this has been explicit). However, an exception is the discovery of bones of two sheep skeletons from a posthole from a structure from the Iron Age settlement at Wilby Way, Great Doddington, Northamptonshire (Maltby 2003). Here, substantial parts of two complete sheep aged about three and 15 months old respectively were buried at the base of the feature. Both have butchery marks on some of the ankle bones, ribs and vertebrae and the older specimen also has cuts on both femora. It would seem that these sheep have been skinned and dismembered prior to the remains of the butchered carcasses being collected and placed in the posthole. The structure involved was located in an area associated with the deposition of some human remains. It is plausible that these sheep were slaughtered, consumed and deposited as part of a ceremony associated with the foundation of that building.

Examples from British sites that post-date the Roman period also appear to be rare. There is one possible example from Wharram Percy in Yorkshire, where bones of a butchered sheep were found in association with a human infant burial in a construction ditch of a sunken-feature building dated to the late 6th or early 7th century (Milne and Richards 1992; Crawford 2008). Although, Hamerow (2006) listed several other potential examples of sheep “structured depositions” from Anglo-Saxon sites, this is the only example of a butchered sheep from a building context.

It would therefore appear that the practice of depositing the remains of butchered sheep carcasses in building foundations or in boundary contexts has been recorded on a few sites from pre-Roman, Romano-British, and perhaps Anglo-Saxon sites. However, the frequency of their occurrence in Winchester is unusually high. Whether this is merely a consequence of more rigorous recording methods between employed by the archaeologists and zooarchaeologists involved, or whether we are witnessing a practice that had a restricted distribution or was more popular in some areas or in certain types of settlement, such as major towns and villas, remains to be seen. It is important, however, that the distribution of the bones in such groups should be recorded

carefully during excavation and that appropriate sieving and environmental sampling should be undertaken within the vicinity of these depositions. Zooarchaeologists also need to be more rigorous regarding the recording and discussion of associated bone groups. The presence or absence of burning and butchery marks and other taphonomic indicators such as weathering and gnawing damage need to be recorded and explicitly reported upon. In these cases establishing the biographies of what happened to the animals from the time they were selected for slaughter and the final deposition of their remains provides greater insights into the relationship between humans and different species of animals.

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Early Anglo-Saxon Horse Culture and Funerary Ritual (c. AD 450–650): *Active Mythology* in a European Context

Chris Fern

Introduction

Horse sacrifice formed part of proceedings at the funerals of some of early medieval Europe's foremost rulers. In the grave of Childeric I, found at Tournai and dated c. 481/2, part of the skull of a horse was found, possibly representing the decapitated remains of an animal buried with its king, along with an ornate gold-and-garnet harness – the last of the pagan Frankish rulers (Müller-Wille 1970/1, pp. 132, 217; Périn and Kazanski 1997). In addition, over twenty mounts, mainly male animals, were butchered and added to three pits surrounding his tomb (Brulet 1995). Around half a century later, in Sweden, at Gamla Uppsala, sacrificed horses accompanied deceased Svear 'royalty' as they were cremated, before entombment beneath great mounds (Duczko 1996, pp. 68–9, 82; Ljungkvist 2008, pp. 274–5).

Perhaps in emulation, this funerary fashion was popular too amongst Europe's social elite. For example, multiple steeds were sacrificed and buried in the ship-burials at Vendel and Valsgärde, again in Sweden (Ljungkvist 2006, fig. 39). The rite was most frequent, however, east of the Rhine, including amongst the Alamanni, Bavarians, Lombards, Rhineland Franks, Saxons and Thuringians (Müller-Wille 1970/1; Oexle 1984). Overall, across Europe, the horse was the most frequent animal offering in burials, though the practice never achieved popularity in Christian

(Neustrian) Frankia, and was ultimately to cease beyond the Rhine with the influence of Christianity.

This short article will use historical and archaeological evidence to demonstrate that in Anglo-Saxon England, as on the Continent, quality steeds were highly-prized, with a tradition of decorated horse-harness, and ultimately of their killing at the graveside, indicating the existence of an elite culture of equestrianism (Fern 2005; 2007). As will be demonstrated, however, it is not the case that horse beliefs and culture in early Anglo-Saxon England represent merely a passive inheritance of ‘Germanic’ custom, but rather were actively reinvested, as a medium for the creation of social and ancestral identity, and dominance, in the ultimate struggle towards kingship and kingdoms. This is borne out above-all in the mythological war-leader figures of *Hengist* (stallion) and *Horsa* (horse), the founding brothers of the Anglo-Saxon folk. (Turville-Petre 1957; Yorke 1993, pp. 46–9). It is proposed that in the Migration Period (c. 350–550) these deities may have been first conceived through the medium of oral poetry as mutually horse-and-warrior – as zoo-anthropomorphic human-horse ancestors (Fern 2010). Such a characterisation gains support from, and is mirrored by, the combination of animal and human in burials, as well as the deliberately ambiguous human-animal motifs found in the ‘Style I’ animal art of the period. It is argued, finally, that by processes of ritual enactment – via interaction with artistic motifs, oral narration, and funerary sacrifice – a *mnemonic cycle* of *active mythology* was created.

The ‘excellent horse’

Bede (d. 735), in his history of the English, was careful to mark the value of the *equus optimus* (excellent horse) gifted to Bishop Aidan by King Oswine (c. 642–70), that was *stratus regaliter* (regally saddled) and selected from a royal stud (*HE* III.14; trans. McClure and Collins 1994, pp. 131–134; Campbell 1986, p. 96). He had previously recounted how an *equum emissarium* (stallion of the royal stables) had been bestowed, with weaponry, on the apostate pagan priest, Coifi; who subsequently assaulted his old temple from horseback (*HE* II.13). Likewise, the *Beowulf* poem tells of horses with gold-plated cheek-ornaments, gifted to the hero by Hrothgar, together with the king’s personal war-saddle (lines 1035–45;

Bradley 1997, pp. 438–9; Neville 2007). Embroidered though these episodes undoubtedly are, nevertheless, we may have illuminated here a paradigm of early Anglo-Saxon political theatre – of the kingly endowment of a stallion and arms upon heroic followers (Fern 2010). This motif appears again in Bede’s *Vita Sancti Cuthberti*, a horse and spear noted as the key attributes of the young Cuthbert’s noble secular status (Colgrave 1940, p. 173). This association between nobility and horse-riding continued into the later Anglo-Saxon period, with aristocratic wills and charters indicating that trained animals and harness remained prized (Owen-Crocker 1991, pp. 229–33; Neville 2007, p. 142).

Procopius of Caesarea’s peculiar statement, recorded in the mid-6th century, that the Anglo-Saxons were ignorant of the existence of horses and knew nothing of riding is, therefore, clearly fallacious, given this and the ‘overwhelming’ archaeological/historical evidence to the contrary (Dewing 1928, p. 261; Halsall 2003, pp. 184–85). Indeed, from the *Vita Wilfridi* and other sources, we have apparent confirmation of the limited use of *equitatus* (cavalry) by the early Anglo-Saxons, including probably against the Picts at the battle of *Nechtansmere*, c. 685 (Colgrave 1927, p. 41; Higham 1991, p. 238; Cessford 1993). ‘Limited’, specifically in that a warhorse mount was almost certainly the preserve of elites at this time, as Bede suggests, and the gilded horse-trappings of archaeology agree (Figure 13.1. Halsall 2003, p. 124; Fern 2005). In terms of the method of fighting from horseback, literary and pictorial motifs, including that on the Sutton Hoo helmet, indicate particularly the use of the spear as a thrusting and throwing weapon (Bruce-Mitford 1978, fig. 143). This mode of mounted combat had been employed by Roman cavalry and was continued by early medieval Continental armies (Bacharach 1985, p. 746; Dixon and Southern 1992, pp. 119, 121). Besides horse warfare, both horse-racing and hunting from horseback were probably enthusiastic past-times of the ‘aristocracy’ (Bacharach 1985, p. 712; Owen-Crocker 1991, pp. 220–21).

On the Continent there is evidence for a comparable elite equestrian order. According to one 9th-century writer, Frankish lords were duty-bound to provide their followers with arms and horses; and there is evidence too for royal stables, perhaps continued from Roman institutions (Bacharach 1985, pp. 710, 712). Also, Alamannic and Bavarian lawcodes of the 7th–8th century

include clauses that both define and protect a noble class, whose legitimacy was enshrined in the ability to command and fight from horseback (Rivers 1977, pp. 77, 126–27, 132). Different types of steeds are noted, with a stallion warhorse valued at 12 solidi, four times that of a draft animal, and only 8 solidi less than a slave (*ibid.* pp. 27, 37).

By comparison, comment on equestrian matters is largely absent from the early Anglo-Saxon lawcodes. An exception in Ine's law (c. 694) set the high *wergeld* (compensation payment) of 200 shillings for the unlawful killing of a *horswealh* (horse-servant) in royal service: interpreted variously as meaning an 'equerry' or 'mounted marshal' (Attenborough 1922, p. 47, n.1; Clark Hall 1996, p. 190). Whichever is correct, it marks again the significance of horsemanship to kingship at this period, and may be seen alongside other moves by early medieval rulers to enhance and protect precious mounted contingents (Bacharach 1985, p. 710).

Viewed ultimately, this early equestrian model may be said to prelude the chivalric class of the later medieval period. But it was not itself original. Before it, the Roman *eques* (cavalryman) defined a social class identified with wealth and land, from which the officer ranks of the army were recruited (Birley 1979, p. 57). Above-all, for the Romans, the horse was regarded as an intelligent and noble animal, reserved for war, the basis upon which Classical culture abhorred horse meat (Arbogast *et al.* 2002, p. 59). The legacy of the *eques* may well have influenced the development of an early medieval elite identity. This can certainly be seen in the case of the imperial imagery of late Roman coinage, vis-à-vis the iconography of Scandinavian bracteates, small gold pendants of the 5th–6th centuries (Figure 13.2). Coins, such as that showing the head of Constantine the Great superimposed upon a harnessed steed, were the model for the C-bracteate series that purportedly depict Odin, pre-eminent of the pagan gods, morphed with his steed (Axboe 2007, pp. 67–154).

Another, more aggressive influence on early medieval horse culture, in the 4th–5th centuries, may have been the marauding Huns. These eastern nomad peoples used mounted warfare to devastating effect against both barbarian tribes and the Roman Empire (Thompson 1996; Halsall 2007, pp. 170–5). The synchronisation of horse and Hun was succinctly observed by Ammianus Marcellinus, a 4th-century Roman historian, who wrote

that they were ‘almost glued to their horses’ (Thompson 1996, p. 57). But the Huns also stand out for their horse customs, borne of the pastoralism intimate to their culture, which included horse-burial (Bóna 2002, pp. 100–29). Indeed, it has been suggested that Hunnic influence played a part in the *design* of Childeric’s memorial; the act of sacrificing a royal stable intended perhaps to recall Attila’s legendary funeral, at which Huns rode around his body singing a eulogy (Thompson 1996, p. 164). This Hunnic rite is strikingly similar also to the episode of Beowulf’s funeral that culminates the poem, in which twelve, chanting, mounted warrior princes circle the freshly raised barrow (lines 3169–3178; Bradley 1997, p. 494). Both provide a vivid image of the important part horses could play at the graveside in this ‘Heroic Age’ (Chadwick 1912, p. 53). For the archaeologist, however, that role is principally apparent where animals were ritually killed to accompany the dead.

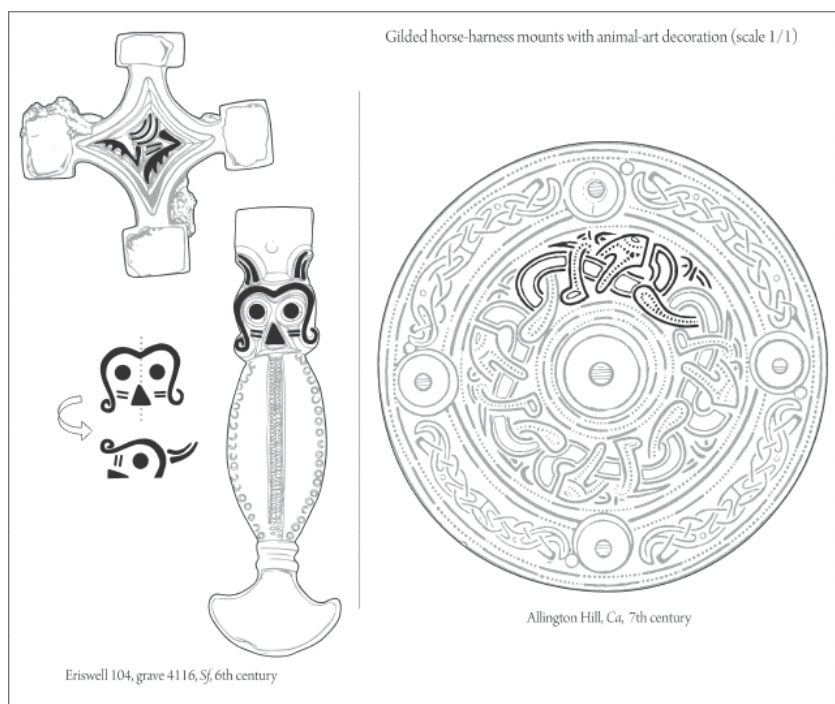


Figure 13.1: Horse-harness.



Silver multiplum of Constantine the Great, c. AD 315 (scale 2/1)



Gold C-bracteate, Maen, Sweden, 5th-6th century (scale 2/1)

Figure 13.2: Roman and Scandinavian equestrian motifs. Bracteate redrawn after Axboe 2007.

Horse sacrifice and display

Horse ritual killing has a long history in northwest European culture. In the 1st-century AD, Tacitus observed their funerary sacrifice east of the Rhine, where they accompanied chosen

members of a warrior class on the cremation pyre (Benario 1999, p. 39). Finds of horse remains in ritual contexts can be dated back as far as the Bronze Age in south and east Scandinavia, with customs in the region continuing throughout the Roman and into the early medieval periods (Müller-Wille 1970/1, Abb. 43). This includes the great sacrificial site of Skedemosse, on Öland, Sweden, where the remains of over 100 horses have been found, mainly dated to the Roman era. At this wetland place, it is thought that stallions were raced, baited to fight, and ultimately eaten (Hagberg 1967, pp. 59ff, 79ff).

In Britain, horse sacrifice was a feature of the Iron Age and early Roman period, with burials known from both settlement and funerary contexts (Wait 1985, p. 150; Barber and Bowsher 2000, p. 20, fig. 16). But, as elsewhere in the Western Roman Empire, the practice seems to have been limited by the classical mentality of the 'noble beast', until animal sacrifice *per se* was officially prohibited by imperial edict in the Christian 4th century (Gilhus 2006, pp. 154ff). Notable exceptions are the 3rd-century horse-cremations from the Brougham cemetery, Cumbria, possibly the rites of a Pannonian cavalry regiment (Cool 2004, pp. 464ff).

Animal sacrifice was reintroduced into eastern England by the early Anglo-Saxons. Although ritual offerings are known from settlements, including the burial of both complete and partial remains, the custom appears most explicit in funerary contexts (Hamerow 2006). A range of species occur in cemeteries accompanying human burials, chiefly in cremation-grounds and sometimes in combination, including sheep/goat, horse, dog, pig and cattle. Whereas cattle, sheep/goat and pig seem to represent food offerings, often deposited as joints of meat, horse and dog occur whole as 'companion' animals (Bond 1994, p. 135; Bond and Worley 2006). Notably, the relative popularity of horse offerings in burial-grounds stands in contrast to the rarity of their remains in normal domestic refuse, compared to other meat-stock species (Crabtree 1995, p. 25). This would suggest that, in everyday life, horses were not consumed ordinarily as food, presumably in part due to their functional value – though as will become apparent, they may have had a far greater significance.

Of the Anglo-Saxon horse sacrifices, the vast majority (over 220 examples) are cremations from just one cemetery at Spong Hill, Norfolk, a large burial-ground containing some 2300 individuals

(Hills *et al.* 1994; McKinley 1994). Other cremation cemeteries, have produced smaller, but still significant, numbers of horseburials: Elsham Wolds (23), Lincs.; Illington (3), Norfolk; Lovedon Hill (4), Lincs.; Millgate (14), Notts.; and Sancton (37), East Yorks. (Harman 1989; Bond 1993; Davidson *et al.* 1993; Fern 2007, tab. 1). However, in real terms the number of Anglo-Saxon horse-cremations may actually be under-represented for two reasons. First, on account of the degree of destruction wrought on the body by burning, some remains are identifiable only as large ungulate (cattle or horse). And, second, some collections have not been the subject of modern zoo-archaeological examination, such as the cemeteries of Caistor, Norfolk, and Cleatham, Lincs., where, in both cases, horse is very likely to be present (Myres and Green 1973; Leahy 2007, p. 223).

From analysis of the horse remains at Spong Hill and Sancton, where in both cases horse was the most popular sacrifice, it is indicated that whole animals were placed on the pyre, though possibly dismembered to enable the movement of the carcass (Bond 1994, p. 123; Bond and Worley 2006, p. 93). On account of the destructive nature of the rite, very little can be said about the sex, age and stature of the sacrifices, beyond the fact that most were mature (over 3 years), and hence of working age (Bond 1994, fig. 29). Instances of trauma to the metapodials in a few cases have suggested that some may have been traction beasts, and hence were perhaps less valuable offerings (Bond 1994, p. 124). On account of the quantity of cremated bone produced by such a large animal, multiple urns were frequently employed for burial. Sometimes, the cremated horse and human bone was buried in separate containers, with in some cases an undecorated storage pot used for the horse and a decorated vessel for the deceased (McKinley 1994, p. 93; Fern 2007, p. 98).

Considering social praxis, at Sancton and Spong Hill horse offerings occur with male and female burials in broadly equal numbers, and occasionally with children (3–12 years), in total accounting for up to c. 10% of the cemetery population (McKinley 1994, p. 99; Hills 1998, pp. 151–2; Williams 2005, figs. 3.16–3.19; Bond and Worley 2006, tab. 6.1; Fern 2007, p. 99, tab.1). At Spong Hill around a third of the horse-cremations have grave goods that allude to higher social status, such as glass and bronze vessels, with roughly half including gaming pieces, and a minority have evidence

for swords (Hills 1998, p. 152; Fern 2007, p. 99). Spatially, urns containing horse remains mainly occur around the edges of the cemetery, in areas associated with stamp-decorated pottery urns, which surround the focus of the 5th-century 'immigrant' burial-ground (Fern 2007, p. 99, fig. 4). Based on this, and the dating material from the cremations, it can be suggested that the rite was at its height of popularity amongst the descendants of the cemetery's founders, perhaps concentrated over a period of just one or two generations, between c. 475–525. Since it seems likely that the cemetery served multiple surrounding communities, in this context horse sacrifice, as an intrinsic indicator of wealth, may have alluded to a super-regional ideological status to which competing social groups laid claim. Given the size of the cemetery, and the numerous groups it served, such acts would have been played out to a wide audience.

There are plentiful parallels for horse-cremation in Scandinavia, occurring with both male and female burials, though most are dated later than those at Spong Hill (Iregren 1972, p. 79; Gräslund 1980, p. 43; Fern 2007, p. 102, tab. 1). There is, however, an absence of 5th- to 6th-century parallels in the cremating 'homelands' of the Saxons and Angles, in northern Germany (Fern 2007, p. 101, tab. 1). This would suggest that it was not simply the case that the rite was passively imported by a colonising population, but rather that it was a 'Germanic' response by a local Anglo-Saxon population to local pressures (*ibid.* pp. 99, 102). Here, as in Vendel-period (c. 550–750) Scandinavia, it may be suggested that the rite was employed when specific societal conditions prevailed that caused an increase in competition between groups for ancestral and political primacy.

In the course of the 6th century in England, horse-burial appears to have declined in popularity, simultaneously as the rite of inhumation gradually replaced cremation as the norm. For the inhumation rite, just over thirty examples of whole or part-articulated animals have been found, buried in or close to human graves, making it a rare though widespread custom (Vierck 1970/1; Fern 2007). As on the Continent, these horse sacrifices are characterised by an association with 'warrior' graves, many of them wealthy. They often also include horse-equipment (harness and saddles) buried either on the steed, in preparation for an afterlife journey, or separately with the deceased (Fern 2007, p. 96). Many

of the examples were excavated in the 18th and 19th centuries, such as that at Wigston Magna, Leics., where the ‘...remains of four human skeletons...lay side by side...and with them war-trappings; and near one part of a skeleton of a horse, and something like a snaffle-bit (Nichols 1807, p. 377).’ Only one female grave is currently known, at Broughton Lodge, Notts., and there are no examples with children or infants (Fern 2007, p. 96). In the first half of the 6th century, steed and warrior could be interred together in one large grave, perhaps mirroring the proximity of the pyre. Two examples have been excavated at Eriswell (ERL046 and 104; RAF Lakenheath), Suffolk, from two adjacent cemeteries (Figure 13.3; *Ibid.* p. 96, fig. 2). The two graves, funerals of c. 490–525, are each manifest with the authority of a sword and emphasised by a ditch and mound; they may be seen as competing monuments to the power of the heads of local tribes, perhaps with rival claims to be *eques Romanus*.

On the Continent, the rite occurs more frequently than in England with many hundreds of examples known, mostly east of the Rhine, but varies in terms of its chronology and density by region (Müller-Wille 1970/1; Oexle 1984). The earliest occur from the second half of the 5th century, and are particularly concentrated amongst the Lombards and the Thuringians (Müller-Wille 1970/1, p. 149, Abb. 20). Possibly the popularity of the rite in these regions at this time is the result of their greater exposure to the customs of the eastern Huns. As in England, at this early period, the horse was sometimes buried in the same grave as the deceased, with harness and saddle on the animal (Müller-Wille 1970/1, pp. 141–43, 149; Oexle 1984, pp. 123, 139). More commonly, however, the sacrifice was buried separately in a pit, its associated human grave identifiable by finds of horse-harness, weaponry and prestige goods (Müller-Wille 1970/1, pp. 128, 132, 138). By c. 600, this was predominantly the case, with the horse-gear no longer placed with the animal (Oexle 1984, p. 123). Normally only a single horse was killed, though occasionally two or more animals, sometimes together with dogs and cuts of meat, are found in the same grave, as at Quedlinburg, Germany (Figure 13.7; Müller-Wille 1970/1, p. 202). An example of an early Lombardic horse-burial is that found recently at Pieskový hon, Bratislava-Rusovce, Slovakia (Figure 13.3; Schmidtová *et al.* 2009). The grave had been robbed in antiquity, with the horse’s skull unceremoniously discarded amongst the ransacked human

bones, perhaps following the removal of an elaborate bridle.

By the 7th century in England, the rite appears increasingly linked with assertions of paramount status, including in some resurgent cremation burials, marked by their use of bronze vessels as urns and monumental barrows, such as that at Asthall, Oxon. (Dickinson and Speake 1992; Fern 2007). The notion of elite is most unequivocal at the Sutton Hoo 'royal' barrow cemetery, with its five possible horsecremations and one inhumation. In addition, there is possible evidence for a graveside ritual adjacent to Mound 5, of the sacrifice of further horses and cattle, their decapitated heads buried in one of the barrow's quarry pits (Carver 2005, pp. 83, 85). Mound 17 stands out particularly for its gilded horse-bridle and harness, the *regaliter* of an East Anglian dynasty, placed with a young sword-warrior; beside the grave in a separate pit a horse had been killed and tipped in on its side (*ibid.* pp. 215–49).

The fashion for elaborately decorated horse-gear is well-evidenced across Europe in the period (Oexle 1992; Høilund Nielsen 1997). A distinctly Anglo-Saxon tradition is now also emerging in burials and as chance finds made by metal-detectorists (Fern 2005). Another key Anglo-Saxon example is the decorated head-bridle from Eriswell, grave 4116, its cruciform and strap-end fittings typical of the 6th century (Figure 13.1). These forms had been replaced by the 7th century, including by roundel fittings, such as that illustrated from Allington Hill, Cambs. Here then is archaeological proof of the reality of Bede and the *Beowulf* poem: a valuable horse was a status symbol worthy of augmenting with precious harness.

Display is also implied by the animals chosen for sacrifice. From the inhumation rite, information is known for thirteen horses, displayed in Table 13.1. When killed, all but one were young adults, aged 3–9 years, which accords with that found for the cremated horses. In terms of height, they demonstrate an above-average stature for the period, with the majority standing at between 13 and 14.2 hands (c. 132–44cm) at the withers; animals from settlements average 13 hands (c. 132cm) (Crabtree 1989, pp. 56–62; O'Connor 2005, p. 282). Seven were males and two females (based on the absence of canine teeth). This English evidence agrees with surveys on the Continent (Müller-Wille 1970/1, 130; Müller 1980, 146–7, tabs. 1–2; Oexle 1984, figs. 11–12; Kerth 2000, 128). These too have indicated a clear preference for younger adults (3–15 years),

predominantly stallions, though with geldings also known, but very few mares. Around three-quarters have a shoulder height of 130–40cm, with around ten-percent 140–50cm (Müller 1980, 150–2). Horses from the Swedish ship-burials at Vendel and Valsgärde were also of similar size, but in this case a greater percentage of mares is represented (Götherström 2002; Fern 2005, fig. 5.21). Since in this case multiple horses occurred in each grave, it may be that the roles of mares and stallions was viewed differently, perhaps with the former a steed for transport and hunting, and the latter a mount for war (Sundkvist 2001, p. 203). In the Anglo-Saxon context, the preference for stallions in the burial record clearly mirrors Bede's accounts of Coifi's *equum emissarium* and Aidan's *filius equae* (son of a mare). In addition, a clear predilection for stallions is evidenced too in the later Anglo-Saxon period (Neville 2007, p. 144).

Horse-burial	Sex	Age (years)	Withers (cm)	Notes	Reference
Broughton Lodge H1, <i>Ntt</i>	♂	3.5	140*	–	Harman 1993
Broughton Lodge H3, <i>Ntt</i>	♂	6	137*	–	Harman 1993
Broughton Lodge H4, <i>Ntt</i>	–	> 3.5	–	–	Harman 1993
Eriswell (046) 0355/0404, <i>Sf</i>	–	9	132–137	–	O'Connor unpublished
Eriswell (104) 4116/4026, <i>Sf</i>	♂	5	140–143	throat cut, pole-axed	O'Connor unpublished
Great Chesterford H1, <i>Es</i>	♂	< 2.5	126	–	Serjeantson 1994
Great Chesterford H2, <i>Es</i>	♂	4–7	142	–	Serjeantson 1994
Marston St. Lawrence, <i>Nth</i>	–	–	c. 140	'...not above 14 hands high.'	Dryden 1885
Saltwood	♀	4–6	–	canine teeth	Bendrey

1327, Kt				absent	pers. comm.
Snape 47, Sf	♂	20–30	–	decapitated head only	Davis 2001
Springfield Lyons 8577, Es	–	–	–	decapitated head only	Tyler and Major 2005
Sutton Hoo 17, Sf	♂	5–6	144	-	O'Connor 2005
West Heslerton 186, NYo	♀	3	–	decapitated head and body	Haughton and Powlesland 1999

Table 13.1: Details of horses from Anglo-Saxon inhumation burials.

Details of the sacrificial act are known in some cases. Decapitation, with only the head buried, occurred at Snape, in grave 47, Suffolk, and at Springfield Lyons, Essex, in both cases with the head-bridle still in place (Filmer-Sankey and Pestell 2001, pp. 102–11; Tyler and Major 2005, p. 31–2). And in a variation, at West Heslerton, North Yorks., the severed head was placed between the legs of the animal (Figure 13.3; Haughton and Powlesland 1999, pp. 331–3). Only a single possible case of decapitation is recorded for the cremation rite, at the Sancton cemetery, but may have been more common (Bond 1993, pp. 303–4). Significantly, this custom appears to have been widespread on the Continent, being most frequent in Alamannic-Bavarian and Thuringian cemeteries, suggesting a distinctive ritual *modus operandi* (Müller-Wille 1971, pp. 130–2, Abb. 7; Kerth 2000, p. 128). One example is that in grave 106 at the Alamannic cemetery of Kleinlangheim, Germany (Oexle 1992, Taf. 205.199; Peschek 1996, pp. 231–2, Taf. 80). The animal was buried saddled, with a knife – perhaps the sacrificial blade – placed beside its severed neck (Figure 13.3). Additional possible English examples have been cited already from Sutton Hoo, with others known from settlement contexts (Hamerow 2006, tab.1). Where the main carcass of the horse is absent (as at Snape and Springfield Lyons) a ritual feast of horse-eating might be implied, but cannot be proven. Nevertheless, it is interesting to note that despite not being part of the ordinary diet, a custom of hippophagy was recorded by Christian religious from the late 7th century in England (as well as on the Continent), who regarded it as a ‘filthy and abominable practice’ (Emerton 1976, XX, pp. 57–59).

Other animals were killed in a more perfunctory but doubtless still dramatic manner. In the case of the Eriswell 4116 steed, the animal had been pole-axed on the forehead and its throat cut (O'Connor unpublished). In most of the Anglo-Saxon cases, however, no perimortem injury is apparent. Following the fatal blow, the animals were placed on their side in the grave or pit. No preference is shown for the right or left flank, though the animal was normally aligned on the same grave axis as the deceased. What sacred rhetoric might have been uttered during such acts cannot now be known, but in the art and ancestral mythology of the early Anglo-Saxons can be found some striking allusions.

The funeral, ancestral mythology and belief

Archaeologists now consider burials as a form of active media. Funerals demonstrating conspicuous consumption, such as Childeric's grave, were not just statements of grandeur, but could be enactments of political and ancestral intent too (Halsall 2001, p. 121–2). Likewise for the cemetery of Sutton Hoo, it has been argued that we should understand the burials as acts of propaganda theatre, their ritual and physical elements (i.e. grave goods) contributing to a rich 'palimpsest of allusions', akin to the heroic poetry of the era (Carver 2005, p. 503). In this way, we are encouraged to think of burials as capable of the same moralising that we find, for example, in the *Beowulf* poem. Following on from this, archaeologists have begun to think how such transient, but powerful and emotive, rites contributed to the continuance of notions of the secular and sacred; particularly about collective knowledge relating to ancestors and gods. In this way burials may have functioned as powerful mnemonic events, or 'strategies of remembrance', capable of creating, reinforcing and disseminating social memory, or 'narratives of identity' (Jones 2003) – analogous to what we call for the early medieval period, ancestral mythology. In fact, such social narratives, via the medium of oral poetry, are likely to have been the dynamic responsible for the spread of such extraordinary burial rites as horse- and ship-burial.

By the incorporation of animals in the funeral, the participants were not simply adding another inanimate grave good, but contributing life-blood. Possibly, the creature's participation beyond the grave was envisaged, as a ready-harnessed steed implies. Or

perhaps the killing was believed to transfer key attributes of the horse, such as its stamina and speed, to the ancestor. But primarily, the visceral sacrificial act, the animal's death, could be 'good to remember with' (Williams 2005, p. 19). Moreover, by the enmeshing of human and animal together, by the act of funeral sacrifice and the sharing of a grave space, or perhaps more especially by conflagration on a pyre, a new ancestral identity could be created with parity of animal and human (*ibid.* p. 20). Such human-animal ritual has suggested an 'ideology of transformation' to some, a possible shamanistic, shape-shifting aspect to early Anglo-Saxon belief (Williams 2001; 2005, p. 38). Significantly in such traditions, horses are a favoured totem, being perceived as both noble and able to travel long distances (Lepp 2004). Hence, in the context of Nordic mythology, it has been suggested that Sleipnir, Odin's steed, alludes to such a spirit guardian (Ellis Davidson 1964, p. 142).

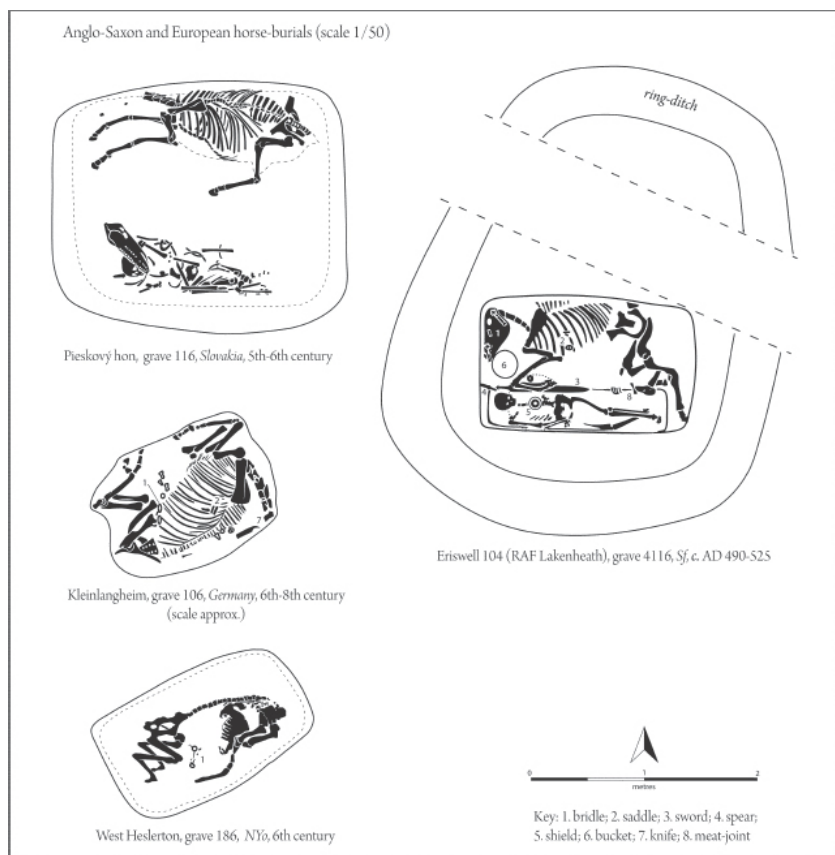


Figure 13.3: Horse-burial. Kleinlangheim redrawn after Oexle 1992.

Such rituals did not operate singularly, however, but were constituents of broader collective strategies of remembrance (Jones 2003). As already noted, ancestral mythology, first as oral poetry and later in written form, may be argued as a further cultural element in what is termed here the *mnemonic cycle* (Figure 13.4).

The dynamic mix of horse and human elements in ancestral personas is demonstrated above all in the Anglo-Saxon record by the brotherly characters of Hengist and Horsa; their names translate respectively as ‘stallion’ (*Hengest*) and ‘horse’ (*Hors*) (Turville-Petre 1957). They are chiefly known from Bede’s history, though their mythology likely derives from earlier oral traditions of the Migration Period (Moisl 1981; Yorke 1993). They are recounted as the *duces primi* (first leaders) of the Angles, Saxons and Jutes inclusively, establishing their widespread significance. They derive

their ultimate importance, however, from their divine descent from Woden (i.e. Odin) (*HE* I.15; trans. McClure and Collins 1994, pp. 26–8). Specifically, Bede records Hengist as the patriarch of the Kentish royal family (*HE* II.5). He says little else about them, other than the fact that a *monumentum* (monument) to Horsa still survived in Kent at his time of writing (*HE* I.15).

A Hengist (possibly the same) occurs again in *Beowulf* and the *Finnsburg Fragment*, where he is a Jutish warrior hero, supporting the argument that his association with Kentish royalty may be part of a Jutlandic myth of origin for the kingdom (Behr 2000, p. 50). Scandinavia was politically and ideologically ascendant in the period and such myths of descent were common to early medieval groups, forming the basis of claims to political and dynastic power (Hedeager 2000, p. 18).

Given their animal names, it is possible that in their original conception Hengist and Horsa may have represented mutable beings, half-warrior and half-warhorse: semi-divine reifications of the notion of *eques Romanus* (Fern 2010). As personifications of the significance of war-mounts and specifically the stallion to the early Anglo-Saxons, they provide an arresting analogy for horse funerary rituals, and of the masculine institution of arms and a steed. Crucially too, if an ancestral horse being, Hengist would occupy in the Kentish genealogy an ethereal position linking Woden with Kent's mortal rulers, a role analogous with that of a shamanic spirit guardian. Moreover, the ability to shape-change finds a direct parallel in Odin/Woden himself, who as already noted was frequently shown morphed with his mount on the Scandinavian C-bracteates, in the image of an all-conquering god ([Figure 13.2](#); Gaimster 1998, p. 57).

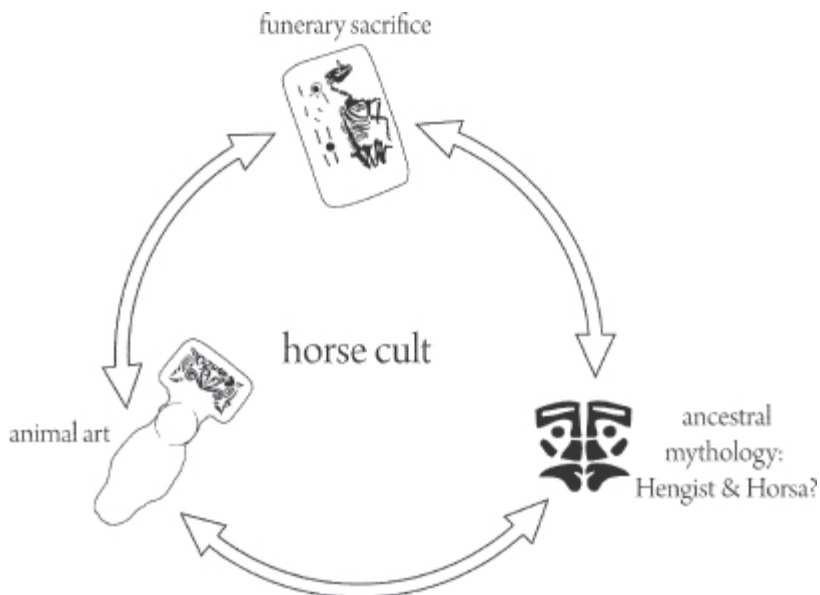


Figure 13.4: The mnemonic cycle model.

We find further support for the significance of the horse, and of human-animal beings, in the animal art of the Migration Period, which has been argued to have a foundation in mytho-religious beliefs (Høilund Nielsen 1998; Hedeager 1999). As such, it is suggested to logically represent a further link in the *mnemonic cycle* (Figure 13.4). One significant aspect of the art in its earliest form (known as Style I; c. 475–575) is the appearance of creatures termed by German scholars *Tiermenschen* (animal-men): quadruped creatures with heads that are both animal and human (Haseloff 1974, pp. 9, 13; Leigh 1984, p. 39). In profile their heads appear zoomorphic, but when rotated and mirrored become human, some with helmeted features (Figure 13.5). Such psychological ambiguity is a recognised aspect of the style, which may have served multiple purposes, including, concealing knowledge of the narrative from the uninitiated outsider, whilst simultaneously bringing gestalt enlightenment to the schooled (Leigh 1984; Lindstrøm and Kristoffersen 2001). Objects carrying such symbolism may well have been regarded as sacred. In addition, the fact it is the animal's head that forms the focus of emphasis, evokes an intriguing connection with the act of sacrificial decapitation.

Horse symbolism is recurrent in a number of forms. On cruciform

brooches, widespread in early Anglo-Saxon England, the foot-plate bears the stylised head of a horse, the nostrils emphasised and flared – ‘open nostrils’ were considered ideal attributes of a steed in the late Roman period (Hyland 1990, p. 6). In addition, profiled pairs of horse-heads occur on military buckles from the late 4th century (Hawkes and Dunning 1961, fig. 15).

Miniature horse art was also employed as stamped decoration on pottery urns in several forms (Figure 13.6): occasionally figuratively as a profiled animal, but more commonly in the abstract form of a horse’s foot, with some examples, such as those illustrated from Spong Hill, displaying clearly the V-shaped ‘frog’ detail. In addition, horse teeth or cruciform brooches were occasionally used to impress decoration, as on a pot from Lackford, Suffolk (Lethbridge 1951, fig. 27).

The application of the horse-foot icon is further found, in minuscule form, as punch-decoration on brooches and other metalwork (Figure 13.6). Examples may be cited from the Morning Thorpe cemetery, Norfolk (graves 35, 80, 90, 96, 114, 131 and 396), and again at Spong Hill (graves 18, 37 and 22) (Green *et al.* 1987, figs. 307, 321, 323, 327, 335, 340, 447; Hills *et al.* 1984, fig. 77). A further early instance is the equal-arm brooch from grave 637, Mucking, Essex, which also displays cast horse-head ornament (Hirst and Clark 2009, vol. 1, pp. 106, 488, fig. 57, 258a).

Horse-like zoomorphs can be identified too amongst the abstract *Tiermenschen* that populate the art of Anglo-Saxon Style I. In particular, the image of two confronted horses is recurrent on a series of brooches of late 5th- to early 6th-century manufacture, of which the English examples come mainly from Kent (Høilund Nielsen 2009). However, perhaps the clearest example is that on the gilt-silver square-headed brooch, from grave 14, Apple Down, West Sussex (Figure 13.5; Down and Welch 1990, p. 95, fig. 2.21). Though stylised, the rearing creatures preserve varying degrees of equine form, including flared nostrils, extended necks and pointed ears. Such brooches were undoubtedly objects of high status, the earliest of which are believed to be imports from the Jutland area of south Scandinavia, though later versions may be local imitations (Høilund Nielsen 2009, p. 69). The motif appears again, in an even more abstract form, on a later series of brooches of definite local manufacture, such as the example from Dover, Kent (Figure 13.5; Evison 1987, fig. 64). The ultimate source of this motif may be the

image of embattled stallions; in the wild, male animals will fight over mares and herds, whilst domesticated horses can be baited or trained into aggression for the purposes of entertainment or warfare. Ritual stallion combat is believed to have been an ancient feature of Scandinavian culture and is a recurrent motif on Migration Period picture-stones (Hagberg 1967, p. 81). In addition, it is important to stress the similarity this motif bears with the arrangement of double-horse sacrifices on the Continent, the animals entwined together in an eternal confrontation ([Figure 13.7](#); Bruce-Mitford 1978, p. 522, fig. 384).



Figure 13.5: Brooches with horse motifs. Redrawn after Down and Welch 1990; Hawkes 2000; Axboe 2007.

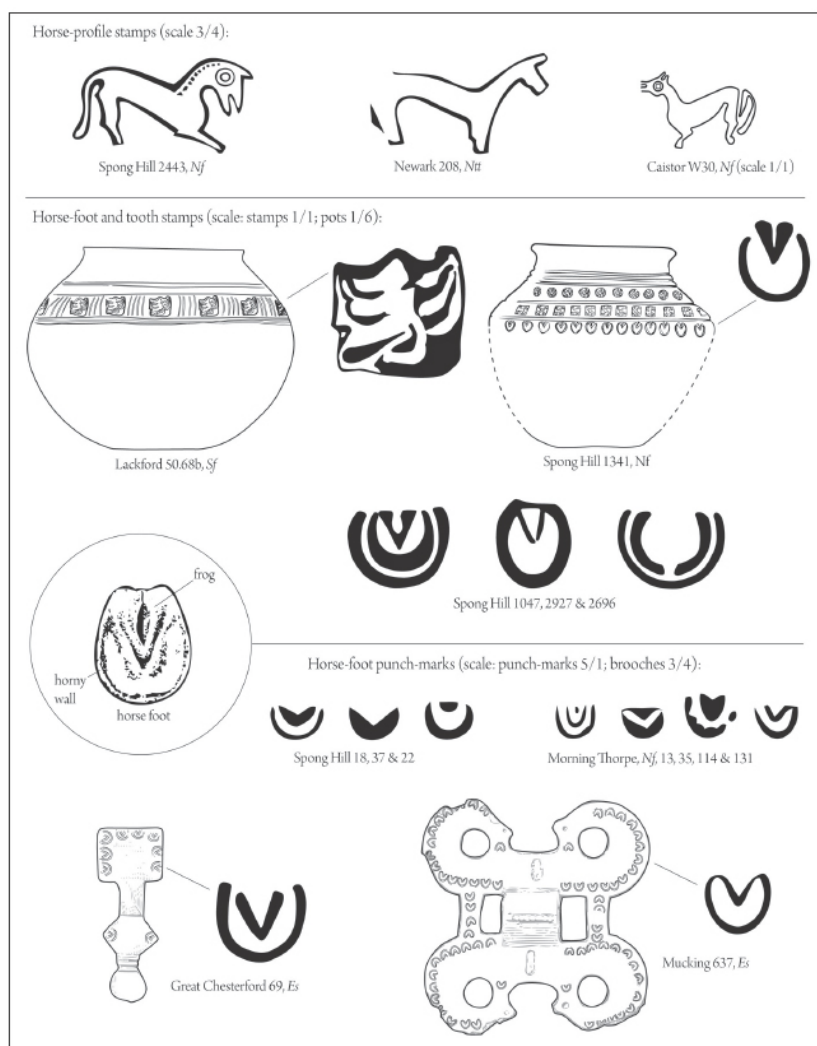


Figure 13.6: Horse-themed stamp and punch decoration. Redrawn after Lethbridge 1951; Myres et al. 1973; Hills 1977; Hills et al. 1984; 1987; Kinsley 1989; Evison 1994; Hirst and Clark 2009.

A horse motif of a different type occurs on another ‘Jutlandic’ brooch from Bifrons, grave 63; two profiled steeds, their mane detail picked out, are shown at a racing-gallop, each mounted by a human facemask (Figure 13.5; Hawkes 2000, fig. 27). Again these horses are examples of *Tiermenschen*. This motif arrangement, with its inset stylised face, is probably drawn from that of the C-

bracteates.

The more advanced abstraction of the animal art seen on the Eriswell 4116 harness-mounts (Figure 13.1) is more typical of the majority of Style I: the cruciform mount shows a pair of galloping legs only, whilst the strap-end mount shows a human-animal head. The change in the aesthetic, represented by Style II (that followed Style I from c. 550), is apparent by comparison with the 7th-century Allington mount; it shows a cycle of processing interlaced animals, possibly again stylised horses (Speake 1980, p. 46).

Further rearing-horse motifs are to be found on the famous Mound 1 Sutton Hoo shield and purse-lid (Figure 13.7; Bruce-Mitford 1978, pp. 49, 522 fig. 384). More unexpected, however, is the occurrence of a double-horse icon on the famous Franks Casket, an 8th-century whale-bone box, decorated with a mix of Judaeo-Christian and Germanic narratives (Webster 1999). Probably made in a monastic workshop, it would have been a gift intended as a moral 'mirror for princes' (*ibid.* p. 244). Within the scene on the back-panel, showing the Fall of Jerusalem, a pair of back-to-back horses, their manes clearly apparent, reside inside the Temple of Solomon, juxtaposed below the Ark of the Covenant. In this revelation is perhaps proof of how important horse mythology was to the early Anglo-Saxons, made manifest in a kingly gift, representing a fusion of pagan and Christian holy tenets.

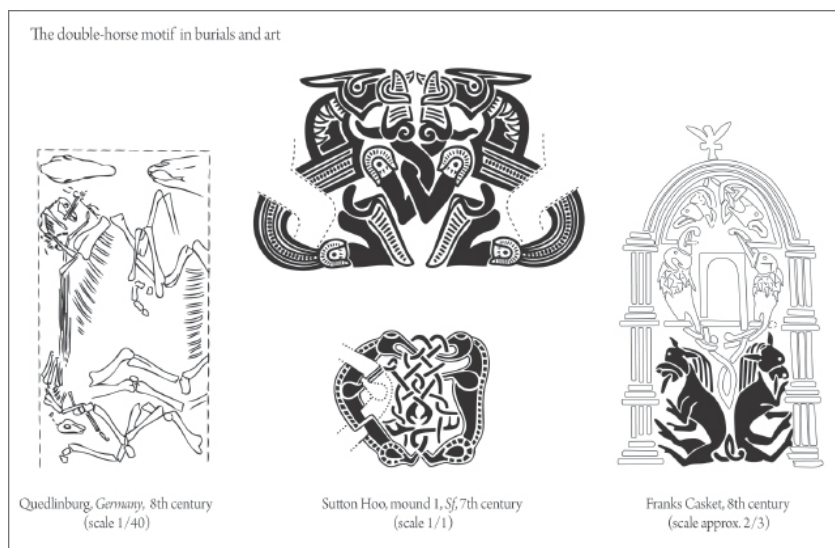


Figure 13.7: Horse-motif comparanda. Redrawn after Müller-Wille 1971/2;

Conclusion

A ‘cult of...equine deities’ in Anglo-Saxon England was argued as long ago as 1957 by Turville-Petre, but has not been seriously advanced since. It is resurrected here: the evidence put forward proposes that combined, horse sacrifice, animal art and ancestral mythology represent a key thread of pre-Christian early medieval mytho-religion (Fern 2010). These elements can be seen as cyclical and complementary mnemonic aspects of a horse cult ([Figure 13.4](#)); that served to continuously reinvest social narratives concerned with the ancestral universe. Furthermore, such mechanisms may have operated to transmit the specifics of animal sacrifice and iconography across Europe.

Mythologies of horse ancestors and gods most probably have their origin in south Scandinavia. Animal art, the Hengist legend, Jutlandic-type brooches and ‘Odin/Woden’ bracteates all emanate from this region, which was politically central in the period. Horse sacrifice too, probably accompanied by racing and stallion dueling, was practised from an early date in this area. The continued maintenance of a tradition of baiting horses to fight for sport is suggested by motifs on Migration Period picture-stones, such as that from Hågeby, Uppland, Sweden ([Figure 13.5](#)). The iconography used on the ‘Jutlandic’ and Kentish brooches of the same period is argued here to represent a further enshrining of these ancient rituals, in the motif form of rearing horses and galloping steeds (the ‘rampant beasts’ of Style I). The human-horse element of the motifs also offer parallels to the purported representations of Odin/Woden on the Scandinavian bracteates, as well as to the mythological characters of Hengist and Horsa. In the early medieval period, however, horse sacrifice was to become most conspicuous east of the Rhine. In this regard, Hunnic influence in the 4th–5th century cannot be discounted as a potential influencing factor. It may be suggested that in all these regions, as in Anglo-Saxon England, a tradition of horse cult was employed to serve both spiritual and secular ends.

In Anglo-Saxon England, a particular fervour for horse killing is apparent in the 5th–6th centuries, notably at the cemetery of Spong Hill, where the horse symbolism of cruciform brooches and pottery

urns is also attested. Combined, the examples from funerary practice and art show that horse cult was widespread. Specifically, the war-leader characters of Hengist and Horsa are fascinating for their potential as mutable human-animal ancestors. As *duces primi*, they were undoubtedly also moral exemplars, to which Anglo-Saxon commanders on horseback might aspire. Indeed, in *Beowulf*, Hrothgar's saddle is described as the *hildesetl heahcyninges* (high-king's war-saddle), a clear symbol of his authority, that he bequeaths to his chosen successor (Owen-Crocker 1991, p. 232; Neville 2007, p. 134). So too, the rite of horse-burial appears to have been concerned with proclaiming elite status for ancestors and kin, shown by the preference for sacrificing valuable stallions, with associated prestige grave-goods.

From at least the 8th century, though probably earlier, at least one English kingdom, Kent, allied itself to the power of Hengist and Horsa, tracing its blood-line from the former Woden-sprung stallionwarlord. This legend and the 'Jutlandic' brooch style may have been fundamental elements in a myth of origin linked to Jutish south Scandinavia. But elsewhere too, 'royal' power was bound up with horse symbolism, as illustrated by the burial rites at Sutton Hoo.

As a last point: what of the church? In Late Antique teaching the ritual killing of soulless *bestia* was an abomination. However, there are no early medieval texts that survive concerned with the prohibition of such practice, excepting the late Roman imperial edict of 391 (Gilhus 2006, pp. 154ff). Though it cannot be proved, the shift towards the separate burial of horse and human, following the use of a single grave, a trend noted both in England and across Europe may have been due to concerns for the mixing of man and beast. Moreover, in England it is notable that many of the latest 'horse' burials of the 7th century contain horse-equipment only, with no steed. Other aspects of horse culture were cautioned against in the 7th–8th centuries: including the pagan customs of eating horse and slitting horse nostrils, as well as horse-racing on Rogation days (Haddan and Stubbs 1896, pp. 368, 458–9; Whitelock 1955, p. 772; McNeil and Gamer 1990, p. 208). Possibly these indicate attempts to suppress cultic activity (Turville-Petre 1957, p. 279). Ultimately, however, old heroes died hard, as attested by the horse imagery on the Franks Casket, and Hengist and Horsa. Such figures and imagery were part of a heroic age, to which Anglo-Saxon

identity and kingship was inextricably connected.

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Evolving Traditions: Horse Slaughter as Part of Viking Burial Customs in Iceland

Rúnar Leifsson

Introduction

Iceland was settled around AD 870 by people from Northern Europe and represents one of the last major habitable landmasses in the world to be permanently settled (Vésteinsson *et al.* 2006). Thousands of people crossed the North Atlantic to make a new home on this distant island and it has been estimated that up to fifty thousand individuals were buried prior to the formal conversion to Christianity in AD 1000 (Eldjárn 2000, p. 256). The people who settled Iceland during the Viking period brought with them pre-Christian traditions from their native homes including the custom of ritualized animal killing (Lucas and McGovern 2007; Eldjárn 2000, pp. 308–12). The clearest manifestations of this are animal remains found on burial grounds, sometimes sharing a grave with a person but also resting in separate burials. The Viking Age grave fields seem not to have been on a community scale, but rather single-farm based (Friðriksson 2009). Their location varies; some grave fields are located close to the homefield; often they are close to routes between neighbouring farms and sometimes they are even situated on boundaries between farms. This single farm pattern has been interpreted as possibly reflecting the claim of specific groups of settlers to the land that the graves demarcate, and if so, might be seen to act as an affirmation of ownership (Friðriksson 2009; Aldred 2008).

A total of 333 pagan graves have been unearthed in Iceland,¹ although there are likely to be many more. Along with grave goods,

two animal species are frequently found in these burials, dogs and horses, which are the most common 'grave good' in general in Iceland and the topic of this paper. One or more horse is found associated with a third² of all known burials (Friðriksson 2010, pers. comm. 20 January) and their occurrence is not isolated to a particular region but spread over the island only with a scarcity in the westernmost part, where fewer burials have been found altogether. However, reducing horses to simple grave goods might be an over simplification. At the most fundamental level we can define two main contexts of horse burials on grave fields. Firstly, horses that are clearly associated with a human grave, and secondly which is less common, horses in their own graves sometimes with no apparent association with a human grave. The distance between a horse grave and the nearest human grave varies from 2m up to 50m. The more common context of deposition, where a horse is buried with a human body is in itself quite variable. In some instances both human and horse share one large grave-cut where the horse usually lies at the feet of the human, or is placed by his side. In others, the horse and human rest in two separate grave cuts adjacent to one another divided by a small bulk of soil. In those instances the two grave cuts are nonetheless covered by the same mound. Usually one horse is buried in a grave but there are a few instances where two horses have been deposited with a single human. It is not uncommon to find the remains of riding gear buried with the horses.

Icelandic burials customs in a broader context

Although it is important to place the Icelandic material in its Viking Age context, it is also important to interpret the material on its own terms, not from a hot seat in Scandinavia where circumstances were different and access to various resources greater (see Pétursdóttir 2009). There are superficial similarities between the Icelandic graves and Viking Age burials in Scandinavia and the British isles. For instance in the types of artefacts found deposited in the graves; women were often buried with oval brooches and other jewellery and males sometimes with weapons and a horse, occasionally a boat would be deposited, etc. However, the Icelandic burial material has distinctive characteristics. Recent research in Scandinavia, such as Svanberg's (2003) work in southern Sweden, has shown that

beyond superficial generic similarities there are clear differences in burial customs between regions. Similarly, although the general picture of burial customs in Iceland corresponds well with the rest of the Viking world, it has its own localised characteristics which are worth defining. One thing that stands out when looking at Icelandic Viking burials is the relative uniformity in burial customs over the whole island (Eldjárn 2000, pp. 255–297). This is curious because Iceland is a large and sparsely settled island and the settlers presumably originated in different parts of Scandinavia as well as the British Isles and Ireland (e.g. Price and Gestsdóttir 2006). Even in western Norway from where a large part of the settlers are traditionally thought to have come (e.g. Eldjárn 2000, pp. 23, 474); the diversity in burial custom is much greater than in Iceland (e.g. Shetelig 1912). The most obvious characteristic of the Icelandic material is the absence of cremation burials. Apart from one questionable claim, all known Viking Age burials in Iceland are inhumations (Eldjárn 2000, pp. 289–290, cf. Byock 2005). Cremations are known from all over Scandinavia and were practised to a varying degree alongside inhumations. Another notable aspect of Icelandic burial material is the relative balance in material wealth. There are differences of course; some people were buried without any objects or only one or two, while other graves are richly furnished including animals or even a boat. But there is not the same range in the variability in material wealth as in Norway, Denmark or Sweden, which had perhaps a more complex, or at least different, social structure. It seems that the people at the apex of settler society in Iceland did not compare in material wealth with the most powerful chieftains or kings in contemporary Norway, Denmark and Sweden (Vésteinsson 2000). Neither is there a suggestion of a separate warrior class; the community was, one can assume, mostly comprised of varyingly autonomous farmers, tenants and slaves (Vésteinsson 1998; 2006 and 2007). Icelandic society was clearly stratified with the families of the most prominent settlers and largest land owners at the top, but it is possible that their relatively modest burials indicate that they did not have the same degree of control over their subjects as the old aristocracy did in Scandinavia.

If we look at the animal part of the burial material we can again see differences between Iceland and the rest of the Viking world. Ritualised killing of animals into graves was quite common during

this era in Norse societies, especially in Norway and Sweden (Eldjárn 2000, pp. 310–11), but to a lesser degree in Denmark where the best known contemporary examples are 10th-century warrior graves which are often linked to the consolidation of royal power (e.g. Pedersen 1997, Lyngstrøm 1993, Brønsted 1936). In Sweden there is considerable regional variation in burial customs and a greater number of species are found in graves there than elsewhere in Scandinavia (e.g. Svanberg 2003). The Norwegian grave material is considered most comparable to the Icelandic (Eldjárn 2000, p. 475). Comparing grave material can be difficult, not least between distant areas. This is due to different preservation, differences in recovery and research and the varying degree of publication. All of which can greatly skew the information available for analysis. So comparisons must be tentative. There has been no comprehensive research on the occurrence of horses in graves in Norway and a lot of what has been written concerns the splendid aristocratic burials. Nonetheless we can state that in general there is less species diversity in the Icelandic graves, where so far only dogs and horses have been identified.³ On the other hand, ritual horse killing in burials was very common in Iceland and almost certainly more so than elsewhere in the Norse world. A recent article on horse sacrifice in the Viking world (Sikora 2004), reports that in a sample of 600 Viking graves in Norway, only 7% included a horse. After discussions with colleagues in Norway I suspect that this percentage is too low. Nonetheless, the comparison with the 34% occurrence in Icelandic burials is staggering, which includes 33% of known female burials and roughly 40% of known male burials (Friðriksson 2010, pers. comm. 20 January).⁴ The high frequency of horses in female graves in Iceland is worth noting, because elsewhere in the Norse world, and indeed among the Anglo-Saxons as well, horses, along with weapons, are often seen as one of the male gendering types of burial goods because of their high association with male, often upper class, graves (Bond and Worley 2006, Svanberg 2003).

Horses and burial customs: two case studies

Horses found in Icelandic graves seem to have been specially killed for the burial ceremony. Two slaughtering methods have been recorded. Some horses have been poleaxed; hit on the forehead

with a blunt instrument, breaking the skull. Others have been beheaded and the head then placed in the grave by the animal's body. The main rule is that horses were placed whole in the grave, not butchered or skinned, and in some instances remains of riding gear are found associated with the animal bone. Other trends in the bone data concern the age and sex of the ritually killed horses. Most of the animals are in their prime, between 5 and 15 years of age. Furthermore, only male animals have been identified, so there seems to be a sex preference for the horses most suitable for burial (this was first noted by Günther Nobis (1962) and has not yet been contested by my own research). Unfortunately it is difficult to differentiate between geldings and stallions in archaeological bone assemblages (e.g. Johnstone 2004).

In the following discussion two Viking burials grounds are described, one in the north of Iceland, the other in the south ([Figure 14.1](#)). The first grave field was located at the farm Brimnes by the modern town of Dalvík in the fjord of Eyjafjörður in Northern Iceland. It was excavated in 1909 and a total of 13 graves, unevenly preserved, were described. The burial ground is situated by the coast, adjacent to a riverbed to the south which is also the farm's boundary to a neighbouring farm ([Figure 14.2](#)). The excavators interpreted the burials to be arranged in three main clusters which they termed A, B and C (the following is based on Bruun and Jónsson 1910). Northernmost is cluster A, which is comprised of three burials numbered I–III on figure 2. Burial I was the grave of a middle aged woman accompanied with jewellery and unrecognisable objects of wood and iron. Burial II was a shared grave of a middle aged man and a horse. The man was lying on his back with his head facing SW. The horse was at the foot end of the grave and partly lying on top of the man's feet, indicating that it was deposited after the human body. The horse was decapitated and its head placed on top of its body. The same treatment was observed with the other horses on this burial ground. Grave goods included a knife and a whetstone, scale weights and a spear. The remains of a saddle were found by the horse. Burial III had the remains of an adult male, accompanied with a spear and scale weights. Cluster B is comprised of burials IV–XI. Burial IV was a boat grave ([Figure 14.3](#)). The boat was about 7m long with the prow facing NE.

The excavators thought that the boat had been built of oak,

which does not grow in Iceland. The stern held the remains of an adolescent of unknown sex. A dog had been deposited by the human's feet and in the prow was the skeleton of a horse with an associated buckle. No artefacts were discovered, but the excavator thought that the grave had been robbed. Burial V was to the south of the boat grave and contained the remains of a middle aged woman and at her feet was another cut containing a horse. The woman was buried with jewellery, a knife, a stone vessel and some unrecognisable iron objects. The horse was seemingly buried with a saddle and bridle bits. Burial VI contained both the bones of an old woman and of a horse. Burial VII was a disturbed grave of a man and dog. Burial VIII was of a man, with some wood remains. Burial IX was a horse grave; the excavators thought it might be associated with grave X which was disturbed and contained some human bone. Burial XI contained human bone and eroded iron objects.

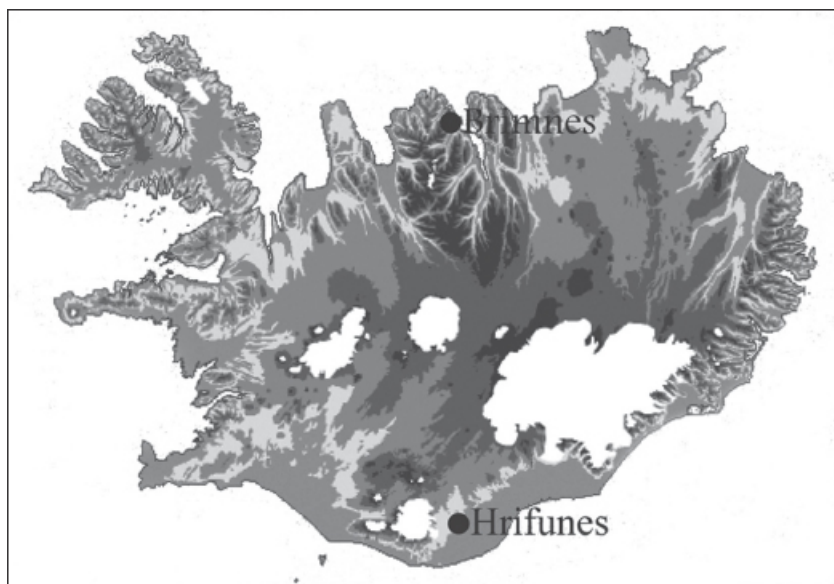


Figure 14.1: The location of Brimnes and Hrifunes burial grounds.

Two graves were in cluster C which was about 50 m further SW. Both burials were covered by very visible mounds. Burial XII contained the remains of an adult male with a dog by his feet and the remains of a decapitated horse with bridle bits. Artefacts in the grave included 19 chess pieces, a stone vessel, a whetstone and some unrecognisable iron fragments. Burial XIII was similar, with

the skeleton of an adult female and a decapitated horse by the foot end. Jewellery and pieces of iron were found with the human bone. In the 1940s another burial was discovered close by. It contained human bone, thought to be female, and the skeleton of a horse with a buckle (Eldjárn 2000: 170). The Brimnes grave field gives the overall impression of the group buried being of considerable standing in society. Despite the range in material wealth in the graves⁵ it is clear that the burials were quite elaborate.

There seems to have been intra grave field correlation in funerary rituals at Brimnes, e.g. regarding the killing and placing of animals. The standardised decapitation of horses indicates some bloody theatrics to the funerary ritual that was maintained over time (e.g. Lucas and McGovern 2007). What stands out at the Brimnes grave field is the common occurrence of horses in the graves, accompanying young and old of both sexes, which is a characteristic of known Icelandic Viking Age burials.

The second grave field was located at the farm of Hrífunes in the south of Iceland. In the home field of the farm, aligned with a riverbank, five burials were discovered due to the riverbank's erosion (Eldjárn 2000, p. 244). The distance between each was 10–40 m east-west and it is likely that the grave field had at some point more burials that are now lost by river erosion, and indeed more burials might still be found in the home field. Three of the graves contained human remains. One grave was that of an infant (Eldjárn 1984). Another was of an adult of unknown sex, covered by a heap of stones. The individual was buried with various objects of metal, stone and wood, most of them corroded or degraded beyond recognition, but they included an iron strike-a-light and lead scale weights (Eldjárn 1984). The last was a grave of an adult woman, also covered by stones. She was lying on her side and buried with personal objects, jewellery and a knife. The woman's grave was dated with tephrochronology as having been dug around AD 934, when a substantial tephra layer was deposited in the area from an eruption in the volcano Eldgjá (Gestsson 1984; Larsen and Þórarinnsson 1984). Apart from these three graves two horse burials were unearthed, both seemingly without direct association with a human grave. The former horse grave was discovered 30 m east of the infant's grave. It has a *terminus ante quem* of AD 934 (+/-2) based on the Eldgjá tephra which was undisturbed on top of the burial (Eldjárn 1966, pp. 61–2; Larsen and Þórarinnsson 1984).

Surrounding the horse grave was an oblong stone setting facing roughly eastwest (Figure 14.4), 4.75m long and 1.25m wide in the middle. At its western end a stone slab had been erected, and west of the slab was a large, subtriangular stone which pointed westwards with its sharpest point (Eldjárn 1966, p. 60). The elliptical grave cut was in the middle of the stone setting. At the bottom of the grave were the remains of a horse, its back against the south side of the cut and its head and neck curled in the western end. In the centre of the grave were a bridle bit and a buckle made of iron, seemingly the remains of riding gear placed on top of the horse's dead body before interment (Eldjárn 1966, p. 62). The second horse grave (Figure 14.5) was covered with a heap of stones and like the other one has a *terminus ante quem* of AD 934 based on tephrochronology (Larsen and Þórarinnsson 1984). This horse had been decapitated. The body seemed to have been deposited 'back down' into the grave with the front part facing north. The head seems to have been deposited afterwards on top of the body and faced roughly east-west. The remains of iron bits were in the horse's mouth and corroded iron in the centre of the grave could be the remains of a saddle (Magnússon 1984, pp. 24–7). It seems certain that the two horses were an intended part of the Viking grave field, not merely discarded carcasses. Both of the animals were buried with riding gear, the dating of both graves corresponds with the only dated human grave and the arrangement of the graves is similar to the human ones. The former horse grave is in the centre of an enclosed stone setting (Figure 14.4) which seems to point towards the importance placed on the animal itself by the people who killed it and buried it. No other graves were detected in the immediate vicinity of either horse grave, so we can only speculate if the horses were buried at the same time as the humans or if the horse burials were a distinct ritual.

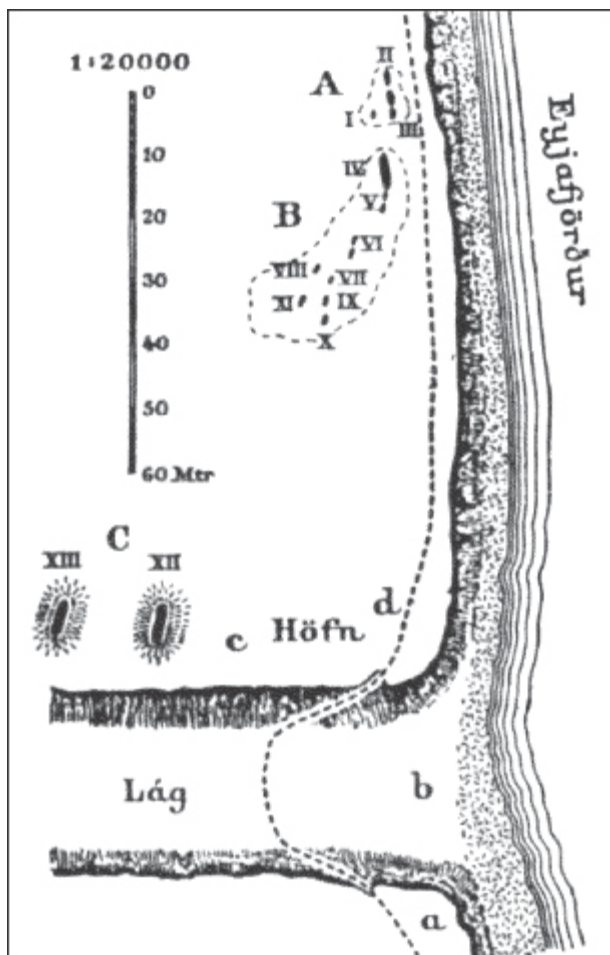


Figure 14.2: A map of the Brimnes burial ground (from Bruun & Jónsson 1910).

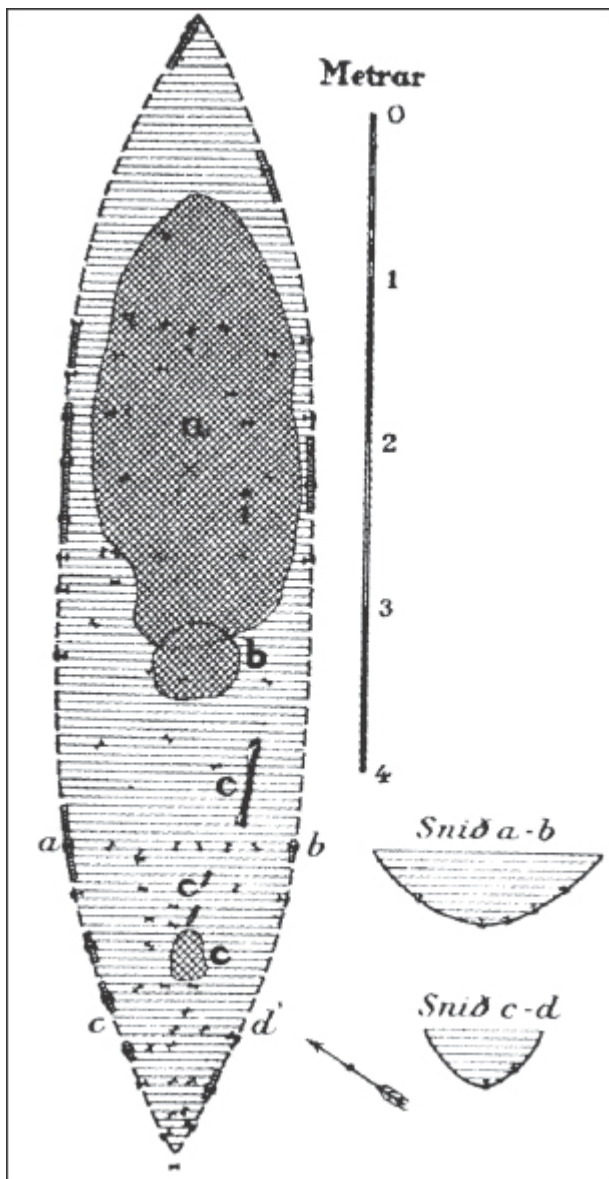


Figure 14.3: Grave IV at Brimnes. A horse (a), a dog (b) and a person (c) were buried inside a boat (from Bruun and Jónsson 1910).

The customs observed in these two burial grounds are different, but both reflect prestige placed on horses in Icelandic Viking Age society. The structured killing and deposition of horses into almost all the graves at the Brimnes burial ground reveals that this ritual

was found suitable for most individuals interred there. Thus the symbolism associated with the ritual horse killing seems to have applied to members of a particular group within the settler society, rather than to individuals of certain gender in an acquired social position. Given the single-farm tendency of Viking burial grounds in Iceland it is very likely that the one in Brimnes is that of a landowning family. The duality between ‘the symbolic’ and ‘the practical’ is a post-enlightenment construction (Brück 1999). The symbolism associated with the ritually killed horses might relate to fertility, journey to the beyond, high status of the deceased, etc. But also there is the practicality of demonstrating the social position of the living members of the group, they are affluent enough to kill a valuable animal and they belong to a family whose stature is worthy of such demonstrations. This correlates well with the Hrifunes burial ground, although the ritual traditions there seem different. A horse killed and buried alone in an elaborate way on a human burial ground indicates that the animal had intrinsic worth, perhaps more so than other horses. For example it might have been excellent for riding, for horse baiting, etc. and would in turn have reflected positively on the owner. The connotations of sacrificing such an animal and placing it in a family burial ground could be similar to the custom seen at Brimnes. It would have enhanced the status of the owner and of the group he belonged to.

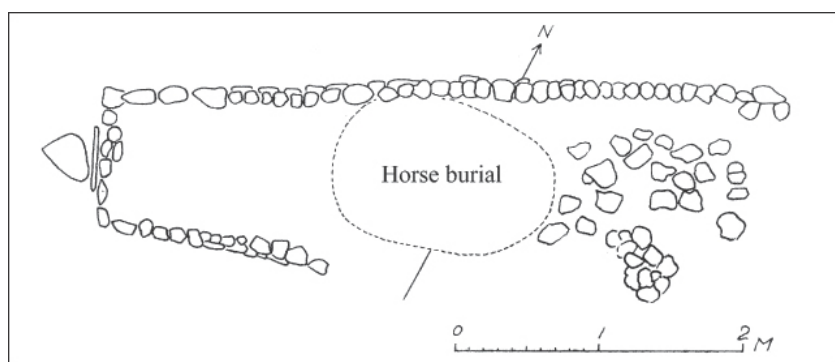


Figure 14.4: A stone setting surrounding a horse burial at Hrifunes (adapted from Eldjárn 1966).

Traditions, ritual animal killing and burial

A good starting point to think about traditions like ritualised animal

killing in burial customs is to acknowledge that such acts are not uniform, but rather complex and diverse in nature. These traditions are comprised of many strings that are woven widely through the society and people's personal experiences. It is simply not enough to refer to the relationship between a person and his or her favourite animal, nor is it enough to refer only to the religious ideas that people may have had, even though both of these aspects might have played an important role. Traditions in general, of both smaller groups, and whole societies alike, are best understood as common symbolic structures that people understand, can relate to and can express themselves through. Traditions are important components of the self-consciousness of individuals and the group-consciousness of societies (e.g. Handler and Linnekin 1984). That said we must also remember that traditions and customs are not set in stone (e.g. Andrén 2005, pp. 120–1). They do not pass down the generations unchanging, nor does their meaning necessarily stay the same. Traditions and customs are dynamic (e.g. Humphrey and Laidlaw 1994) and can evolve and change, whether the agents and participants realize it or not. They are processes which take account of past symbolisms and which can be creatively reinterpreted hand in hand with changes in the wider society (Handler and Linnekin 1984, Bell 1997, pp. 210–252). Thus, we can in certain contexts use detectable symbolic processes, such as ritual animal killing in burial customs, as indicators for changes or adaptations in society. This is especially promising for research into the first decades of settlement in Iceland when a new society was in the making on a previously uninhabited island, quite remote from old centres of power and social institutions. Traditions can be selected for and changed by the agents involved but they are still for the most part limited by heritage constraint and they run from a reservoir of older ideas (Cullen 1996, p. 133). So the traditions brought to Iceland by the Viking Age settlers originated in previous experiences but were selected for and adapted to new situations and to the changing needs of a society under formation. The materialization of these adaptations can be detected in the burial customs and in that context the great emphasis laid upon animal sacrifice is particularly noteworthy.



Figure 14.5: The second horse burial discovered at Hrifunes (from Magnússon 1984).

Traditions reflecting society

The emphasis in Icelandic Viking society on placing horses into graves is curious. Why was this burial tradition favoured, it seems above most others, and what sort of society does it reflect? It is not surprising in itself that the practice of ritually killing horses existed in Iceland. The custom has long been well known in the areas from where the settlers originated and has been discussed by various authors (e.g. Shetelig 1912; Brögger *et al.* 1917–1928; Stolpe and Arne 1927; Arbman 1940–3; Müller-Wille 1972). Horses have been seen as representing fertility (Gjessing 1943), as being liminal beings who can transgress the boundaries of this world and the next (Oma 2001; 2004), or being a male gendering, high status symbol (Svanberg 2003; Pedersen 1997). It is likely that the practice of burying horses with humans had many connotations, symbolic and religious, worldly and political, as well as being something appropriate and normal to do when showing final respect to particular individuals (discussion by Price 2002, p. 316). The Icelandic Viking Age grave material gives the impression of social stratification⁶ (cf. Einarsson 1994). The reasons why ritual horse

killing seems to play a pivotal role in that respect must be bound by, and thus reflect, certain aspects of the Icelandic settlement society. Weapons placed in early medieval graves were very actual things, not merely symbolic. They were used by the men buried with them and endowed them with the power to participate in politics (Halsall 2003; 1998, p. 3). Fittingly it is not uncommon to find spears, axes and swords⁷ in Icelandic male graves of the Viking Age (Eldjárn 2000), but horses are much more common and were deposited with both sexes. Traditional explanations for this have centred on horses having been simply more readily available than weapons or other material wealth in Viking Age Iceland and thus more readily expandable (e.g. Eldjárn 1981, p. 4). This idea is problematic because it is too focused on cost efficiency being the premise of a tradition of ritual killing. In fact, there are no grounds for assuming that horses were anything but valuable possessions and they were certainly important to society in many different ways (e.g. Kelekna 2009). It was out of choice, not 'necessity' caused by lack of material wealth, that ritual horse killing was so prominent; killing and depositing horses into inhumation graves was more appropriate in early Icelandic society than many of the various burial customs in Scandinavia. The emphasis on ritual horse killing over weapons, for example, may rather reflect that early Icelandic society was above everything else a farming community, perhaps to some extent differently composed than the groups who made the term 'Viking' infamous in Britain and Europe. As noted above, the killing of horses in Scandinavian burial practices is often connected to high status males (land owning class and warriors). In a less militarised society made up of homogenous farming communities, where competition between autonomous groups might nonetheless be prevalent, it would seem logical that the status symbolism associated with ritual horse killing was more prevalent than the symbolism more directly associated with warriors. Ritual horse killing also transcends gender and age boundaries quite readily in Icelandic burials and thus seems to be a tradition focused on groups of specific standing, rather than on individuals. It has proven a fruitful avenue of interpretation in studies of the late Iron Age to regard grave goods as representing social and political competition oscillating in intensity with the strength of centralised government at any given time (e.g. Halsall 1995). If that is so then the frequent occurrence of the horse in Icelandic burials might shed light on the

undeveloped power structure of Iceland during the first decades of settlement suggesting that different groups of settlers used the symbolism of rituals like this to express or negotiate their standing in the new society. In this context the ritually killed horses resting in their own graves on burial grounds seemingly unrelated to surrounding human graves also acquire significance. Ritual language or the code inherent to rituals is important (e.g. Bell 1997, p. 129; Carver 1995), perhaps not least in societies where formal authority was underdeveloped and contested like during the settlement period of Iceland. It is possible that the first generations of Icelanders chose, consciously or not, to use a “ritual language” that was widely understood over the island, at least when it came to burial customs and claims to land.

Burial customs reflect many aspects of life; religious ideas often play a part, but also the personal experiences of relatives, and on a broader scale, politics can also be involved as well as social tension. Various reasons can be argued to have contributed to the insular development of ritual horse killing as part of burial customs in Iceland, but an instrumental cause has got to be the specific societal conditions on the island during, and immediately following, the settlement period. Conditions influenced by the tensions which inevitably accompany the process of building a new and quite heterarchical society on a previously unsettled island where rooted power structures are absent, where there is no hereditary claim to land and where people recycled old symbolisms to negotiate their standing in the world.

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Notes

- 1 The criteria for recognising a pre-conversion grave has usually been the occurrence of ‘grave goods’. This criteria may possibly have narrowed the focus on ‘higher status’ burials and thus excluding a range of other

- contemporary graves that lack associated artefacts. A study into this is now underway (Gestsdóttir 2010, pers. comm. 20 January.).
- 2 This is likely an underestimate since burials from the 19th and early 20th centuries were sometimes poorly recorded by non-professionals and the bone material was often not retrieved or curated. Horses get more common in more recent investigations.
 - 3 A possible exception is a pig mandible found in context with a human bone at the Viking port-of-trade of Kolkuós, North Iceland (Traustadóttir 2010, pers. comm. 20 January.).
 - 4 Horses occur in almost 29% of burials of unknown sex.
 - 5 The artefact assemblage is probably skewed by 'grave robbing' and uneven preservation.
 - 6 Apart from some variation in 'grave goods', there is the dilemma of only 333 pre-Christian graves being positively identified (based on the occurrence of artefacts/animals) and the looming suspicion that we might mostly be looking at the burials of prominent groups, perhaps not recognising the graves of e.g. servants and slaves in the archaeological record.
 - 7 The occurrence of swords and other metal objects might be somewhat skewed due to 'grave robbing' through the centuries. A substantial number of known graves had been disturbed before they were investigated (Friðriksson 2010, pers. comm. 20 January.).

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Sacred Cows or Old Beasts? A Taphonomic Approach to Studying Ritual Killing with an Example from Iron Age Uppåkra, Sweden

Ola Magnell

Introduction

Archaeological finds of depositions of animal bones from different parts of the world show that ritualised killing of animals, often followed by consumption of meat, is a widespread human behaviour and is found one way or another in most societies from the Stone Age through to historic periods (O'Day *et al.* 2004). Sacrifices of animals and feasting on meat often play an important role at religious festivals and other rituals such as funerals (Twiss 2008, p. 423). If we want to understand the religious and ritual practises of past societies, depositions of killed animals are an important archaeological source material. Further, it is important to study and understand ritual animal killing since it is integrated with subsistence and animal husbandry.

To analyse and interpret depositions of animals is problematic. One reason for the difficulties of understanding ritual killings is that they represent complex and diverse processes and beliefs. The Old Norse written sources can serve as an example of the diversity of reasons and occasions for the ritual killing of animals. There are examples of sacrifices of animals at seasonal festivals, at funerals, after the successful conclusion of business between tradesmen, before duels and to ensure good winds before sailing (Näsström

2001).

The most central problem with dealing with depositions of bones from an archaeological context is how to define what ritual killing is and how it differs from ordinary slaughter. How rituals, sacred and profane, are defined and identified has been an ongoing issue in archaeology, especially during the last few decades (O'Day *et al.* 2004). Since the 1980s, the debate about Iron Age ritual bone depositions, also called Associated Bone Groups, has been an especially debated issue in England (Grant 1984, Wait 1985, Wilson 1992, Hill 1995, Morris this volume).

In most societies, slaughter is accompanied with all sorts of rituals and one could argue that most animal killing is ritualised, like the Jewish *kosher* or traditional slaughter in Nordic countries during the 19th century (Cope 2004, Heurgren 1925, pp. 357–377). However, there are also many examples where animals are killed under certain circumstances such as at funerals and festivals that differ from other kinds of slaughter. A simple and broad definition of ritual killing could be: when the killing and treatment of a carcass or bones has a specific meaning and purpose beyond subsistence and simply transforming an animal into food.

Identification of bone depositions as ritual is commonly based on which animal species and body parts are found together with the archaeological context. In some cases this is more obvious, such as depositions in graves, even though the purpose of the animals in mortuary contexts may vary (Räf 2001, p. 18). Depositions of bones within settlements are often more problematic. There is a tendency to focus on and identify the more obvious, unusual and odd depositions of whole carcasses and of species that are rarely found, such as human bones (Wait 1985, p. 151, Wilson 1992). This is clearly also the case with finds of horse bones from Iron Age Sweden, which are often interpreted as ritual depositions, while finds of livestock are commonly associated with profane, mundane activities (Andersson 1998, pp. 250–251). However, most ritual animal killing in prehistoric Europe has involved the most common animals, i.e. cattle, sheep and pig. Usually in these cases the carcasses have been processed and the meat consumed, making the bone deposition resemble more ordinary refuse.

Another problem with studies of bones from ritual depositions is that they tend to verify written or ethnographic sources and follow ideas and conceptions among archaeologists of what is a typical

ritual animal killing from a specific area and period. The bones will serve as a kind of illustration to what we already know or maybe assume we know, rather than contributing new knowledge. It is a risk that we will find the depositions that match these definitions of ritual depositions of bones. The problem is that these are definitions created by archaeologists and not by the people who killed the animals.

The taphonomic approach

A useful approach when dealing with possible ritual killing is to try to reconstruct the taphonomic history of the bones from an archaeological context. The chronology of different processes and how they form and alter the composition of animal and human remains is usually called taphonomic history. The palaeontologist J. A. Efremov was the first to use the term taphonomy and to define it as “the study of the transition (in all its details) of animal remains from the biosphere to the lithosphere” (Efremov 1940). Taphonomic studies do not only aim at understanding the loss of information, but also when, where and how different processes have affected the osteological remains (Beherensmeyer and Kidwell 1985).

Among archaeologists it is quite commonly considered that taphonomy is only the natural and destructive processes that affect the preservation of bones after humans having discarded the bones. However, according to taphonomic definitions, when dealing with animal remains from archaeological contexts, human actions are often the most important taphonomic agent affecting the composition of bone assemblages (Lyman 1994, Magnell 2008). Taphonomy is in this study considered as *all* processes that have affected the osteological remains from when they were a part of living animals to when they have been recovered and analysed.

In all good archaeozoological studies taphonomy is considered and dealt with, but not always in a clear, systematic way. The advantage with the taphonomic approach can be summarised as follows:

- To consider taphonomic loss and how processes affected and changed the compositions of a bone assemblage is always important as in any study of bones from archaeological sites.
- The taphonomic approach is a way of trying to be objective,

without any preconceptions whether a deposition should be considered ritual or not and systematically focusing on the information from the bones. Instead of looking for certain definitions for ritual depositions and focusing on just these aspects and in this way missing other important information about the ritual, a methodical examination of all the evidence relating to the full chain of events; from the selection of the animals, the treatment of the carcass and deposition of the bones, is preferred. By using a taphonomic approach, it is not assumed that the factors that have formed the composition of an animal's remains are due to rituals; rather it is important to study if it may be the end result of natural processes or human actions and if these actions in some aspects express what can be interpreted as ritualistic behaviours.

- An important aspect of this approach is that it serves as a method to reconstruct the chronology of ritual killing. Ritual slaughter could, as most rituals, be understood as a process or a chain of different acts, or as a drama with different scenes (Fabech 2009, p. 318). A sacrifice of an animal is initiated before the slaughter and starts with the selection of that animal which should be killed. Once individuals are chosen for killing they may be treated in a specific way. Later, the actual killing takes place followed by the treatment of the carcass. Often the animal is butchered and after that the meat is cooked and consumed. Finally, the bones are deposited. In the analysis of the taphonomic history of a bone assemblage, the chronology of different processes is studied which often can be linked to different stages in the process of animal sacrifices.

The approach presented here has a lot in common with the study of animal biographies in order to understand associated bone groups, especially with the aim of identifying different events in ritual animal killing (Morris this volume).

Taphonomy and ritual killing

The taphonomic history of ritual animal killing can be divided into important stages of what is possible to analyse.

Selection of animals

The first stage is the selection of animals to be killed. Factors that surround the death of an animal, such as mortality, the cause and location of death, are called thanatic and determine if the remains of an animal will be included in a death assemblage (thanatocoenose) and how it differs from the biocoenose or the living population (Lyman 1994). Is it a reflection of what animals are available or a certain animal specifically selected which may have a particular symbolic meaning? When studying what kinds of animals were selected for a sacrifice, it is important not only to focus on the species level, but also age and sex which could be equally important. It is important to note that in many societies ritual killing is not specific to rare species, but instead focuses on animals that form a central part of the economy, such as the reindeer amongst the Saami or the Roman *suovitaurlia* (Iregren 1983, Wilkens 2004).

Killing

The stage following the selection of animals that can be studied from recovered bones is the killing. From a taphonomic perspective the cause and time of death are thanatic factors. Between the selection of animals and the killing many significant stages may have occurred where the chosen animals were treated in a special way, such as given certain food and adornments, perhaps even fulfilling the role of actors in a dramatic enactment. However, these stages are in most cases very difficult if not impossible to study on the basis of the archaeological record. The killing itself is difficult to study and is dependent on how the animals were killed. Animals killed by slitting the carotid artery or strangulation, rarely leaves any traces on the bones. Killing by a blow to the head leaves marks on the bones of the cranium, but it is sometimes difficult to determine whether the fragmentation of skulls is due to killing, efforts to extract the brain, or other taphonomic factors.

If there is no information regarding how the killing was carried out, it is often possible to study where and when animals were sacrificed. Body part frequency could give clues about the treatment of the carcass. Also prerequisites for killing could be relevant to consider, such as spatial conditions and where on a site animals could have been killed.

Many rituals are linked with different seasons and through age estimation of bones of juvenile animals it is often possible to get

indicators of season of killing. Seasonality analysis is often problematic and especially that of domestic animals, but it is important to consider since it may help to understand a crucial aspect of the ritual. Seasonal analysis of bone depositions from Frösö church, Sweden, dating to Viking Age, show that it is possible to identify seasonality in ritual animal killing (Magnell and Iregren 2010).

Processing and utilisation

Biostratinomy is the study of processes affecting an animal between death and burial and concerns the destruction of a carcass through different stages that in archaeological settings often start with butchering followed by cooking, and later by natural factors such as gnawing by scavengers, weathering and sedimentation. How and which perithotic factors affect a carcass from death to burial can often be studied in relative detail through the analysis of cut marks, the frequency of body part (anatomical element) representation, burning, gnawing marks, trampling and weathering (Lyman 1994). Cut marks in particular can often provide important information. Finds of skeletons or body parts of single individuals could often give the impression of depositions of whole animals, but in some cases cut marks show that the carcasses may have been skinned, the meat filleted and even joints disarticulated. Analysis of butchering marks and fragmentation patterns could indicate which body parts are utilised and consumed, the kinds of tools that were used and if the method of butchering is different from ordinary slaughter. Evidence of exposure of fire could provide clues about cooking or the use of fire in the ritual.

Deposition

The final stage in the ritualised killing of animals is the deposition of their bones and from a taphonomic perspective this stage is included in biostratinomy. In which archaeological context the bones have been deposited is of course vitally important to consider. By studying body part representation it is possible to trace if specific body parts were preferentially deposited or if whole carcasses were laid down. It is important to consider whether the bones have been hidden and protected, left out on display or just thrown on the ground. The presence of gnawing marks, traces of

trampling and weathering could provide information about which environment the bones have been placed in and how they have been treated before the deposition. Gnawing by dogs and other scavengers, together with weathering, are examples of perthotaxic factors that in most cases altered the composition of a sample of bones and may result in an absence of delicate bones including those from juvenile animals (Lyman 1994).

Post-depositional factors

Diagenesis is the study of post-burial taphonomic factors that act between burial and recovery, such as chemical and physical changes relating to soil conditions and bioturbation. Factors influencing whether the bones will be collected are called sullegic and include the area of a site chosen for excavation and the sampling methods used, such as sieving. Diagenesis and sullegic factors are of course also important to recognise as taphonomic end stages, even though they could not be considered a part of the ritual killing.

Ritual animal killing in Iron Age Uppåkra?

The taphonomic approach to studying the ritual killing of animals will be exemplified in a case study from the Iron Age site at Uppåkra. The site is situated in southernmost Sweden ([Figure 15.1](#)). The settlement has a long history of continuous occupation from the late Pre-Roman Iron Age to the Viking Age, c. 100 BC–1000 AD and covers an area of about 40 hectare with up to 2m-thick cultural layers ([Figure 15.2](#)). Results from archaeological excavations and detector finds show that it is a special site, exceptionally rich in finds of precious metal objects, both imports as well as evidence for local production. Uppåkra was most likely a political, religious, economic and social centre in the region (Larsson 2001).



Figure 15.1: The location of Uppåkra in southern Scandinavia.

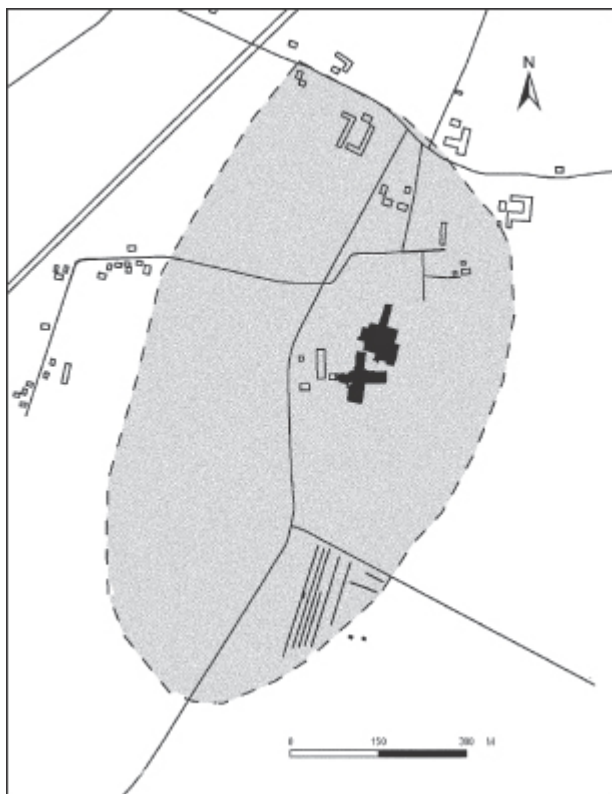


Figure 15.2: Occupation layers (grey) and excavation areas (black) of the Iron Age settlement in Uppåkra.

In 2001–2004, remains of a remarkable house structure were

excavated in the centre of the site. It is a relatively short, high-timbered house, about 14m long and 6m wide, with over-dimensioned proof-supporting postholes and walls in relation to the size of the house. This indicates that it was probably a building of exceptional height with a special function. The house was in use for a long period of time, from the 2nd to 9th century AD and was rebuilt at least seven times in the same structure and shape (Larsson and Lenntorp 2004).

Finds from the house also indicate that it was a building used for ceremonies. In one of the floor layers a deposition of an imported glass bowl along with a unique silver and gold beaker were found. Among other finds are over a hundred gold-foil figures (*guldgubbar*). The function of these small pieces of gold with figures stamped on them is discussed, but it is often assumed that they had a symbolic and religious meaning (Watt 2004, p. 216).

The ceremonial building is surrounded by a cultural layer dated to the Late Roman Iron Age and Migration Period (c. 350–550 AD) with an unusually large amount of bones that form a pavement around the structure (Figure 15.3, Figure 15.4). The question is, how do the bone relate to the ceremonial building and do they originate from ritually killed animals? The general impression of the bones is that they are food refuse mainly representing common Iron Age animals: cattle, pig and sheep. The bones are fragmented with traces of butchery and are not found articulated in pits, but seem to have been spread over the ground. It is not only the close spatial relationship with the ceremonial building that indicates that the animal bones may originate from ritual killed animals. Among the animal bones in the cultural layer, finds of gold, such as bracteates, have been found as well as 33 scattered human bones that indicate that the bones were probably not ordinary food refuse (Figure 15.3, Figure 15.4). Furthermore, finds of deliberately destroyed weapons, mainly lance- and spearheads, around the ceremonial house with a concentration of several hundred spearheads about thirty metres north of the temple, also support the conclusion that the area had been used for ritual activities (Figure 15.3, Figure 15.4).

Through the analysis of the taphonomic history of the animal bones from the cultural layer by the ceremonial house and weapon sacrifice, an effort has been made to investigate if this assemblage represents ritually killed animals or not. The analysis also aims at

better understanding the purpose and meaning of the slaughter and to trace activities relating to how the area around the ceremonial house has been used.

Selection of animals

Quantification of bones by the ceremonial house and weapon sacrifice show that most of the mammalian bones (98%) are from typical Iron Age livestock in South Scandinavia. Bird bones are rare (0.5% of NISP) and relatively few fish bones were found (3% of NISP) despite wet sieving the contexts.

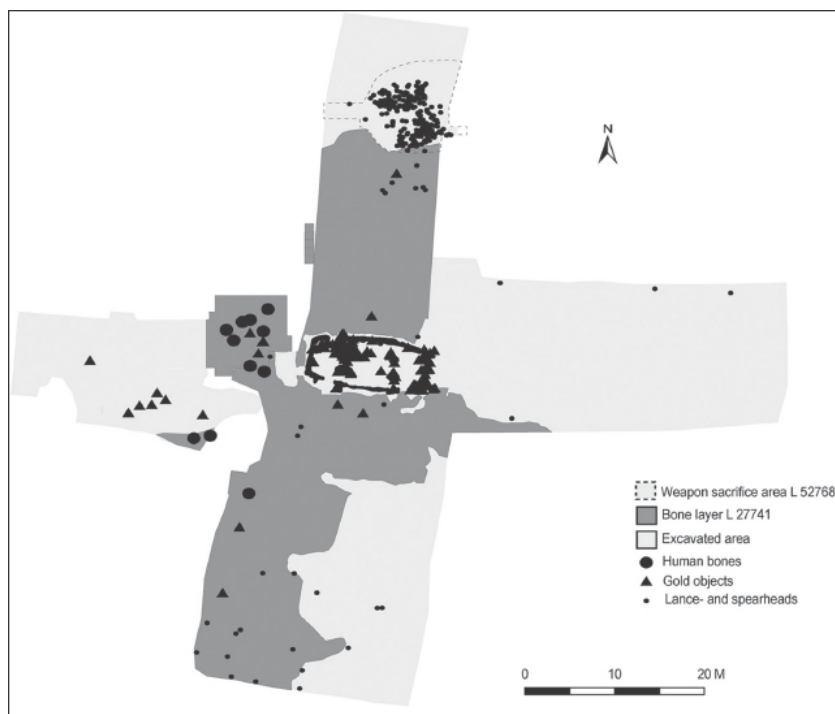


Figure 15.3: Ceremonial building (black rectangle), cultural layers with large quantities of animal bones and distribution of human bones, gold objects and weapons.

The high abundance of cattle is striking and differs from animal bones from the south-eastern part of the settlement, which are the remains of a more ordinary Iron Age household (Figure 15.5). A comparison with seven settlements from the Late Iron Age in the same province as Uppåkra, shows that the frequency (NISP) of

cattle varies between 28–45% and the median is 37%, while the corresponding frequencies of cattle bones by the ceremonial house and weapon sacrifice are 64% respectively 76%.

It is interesting that so few bones of horse (2%) are found at Uppåkra while their frequency on ordinary settlements varies between 1–24%, with a median of 14% (Figure 15.5). In Scandinavian archaeology horse bones have often been associated with Iron Age ritual due to the prominent role of horses in Old Norse written sources and several finds of horse bones deposited in bogs (Nilsson 2009, p. 90). Clearly, horse has not been slaughtered very frequently by the ceremonial house and weapon sacrifice in Uppåkra, or at least the bones have not been deposited here. In addition, there are just a few bones of dog and wild game. It is clear that the bones found at the ceremonial house in Uppåkra are bones of animals kept and slaughtered primarily for their meat. Horse meat were regularly eaten during the Iron Age in Scandinavia, but horses was primarily kept as riding or as draught animals and not raised for meat production. Cattle in particular seem to have been selected to be killed and the question is: was it specific animals that were killed?

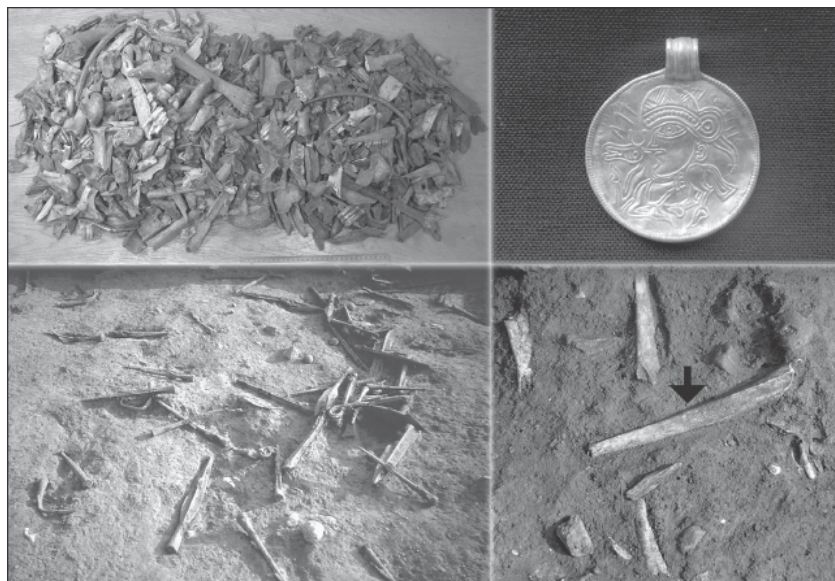


Figure 15.4: Animal bones (13kg) from one square meter of the cultural layer (L. 27741) near the ceremonial house (upper left), lance- and spearheads from weapon sacrifice (lower left), gold bracteate from layer

27741 (upper right) and human diaphysis of tibiae (arrow) found among animals bones in layer 27741 (lower right).

The sex distribution, based on the morphology of the pelvis as well as osteometry, shows that both cows and bulls were slaughtered. More cows (70% by the ceremonial house and 59% at the weapon sacrifice) were slaughtered and this rather reflects what has been found on Iron Age farms in South Scandinavia rather than a selection with a symbolic meaning. The age distribution based on dentition and epiphyseal closure show different kill-off patterns of cattle between the weapon sacrifice and ceremonial house in Uppåkra and more typical Iron Age sites with a self-supporting economy, which usually have a larger proportion of calves, juveniles and sub-adults (Figure 15.6). Half of the cattle at the ceremonial house and about two thirds by the weapon sacrifice that have been slaughtered are adult, fully grown animals. The age distribution trend shows similarities with early urban centres like the Viking Age town Birka (Figure 15.6). The kill-off pattern indicates that the cattle from surrounding areas were brought in for slaughter. The unusually large quantities of animal bone found in the cultural layers also show that extensive killing has taken place at the site and that it was not only livestock from local herds that were slaughtered. Osteometric analysis of cattle shows that the size of the slaughtered animals does not differ from other Iron Age populations in South Scandinavia. There are bones from a wide range of small and large animals, but most seem to be derived from typical Iron Age breeds.

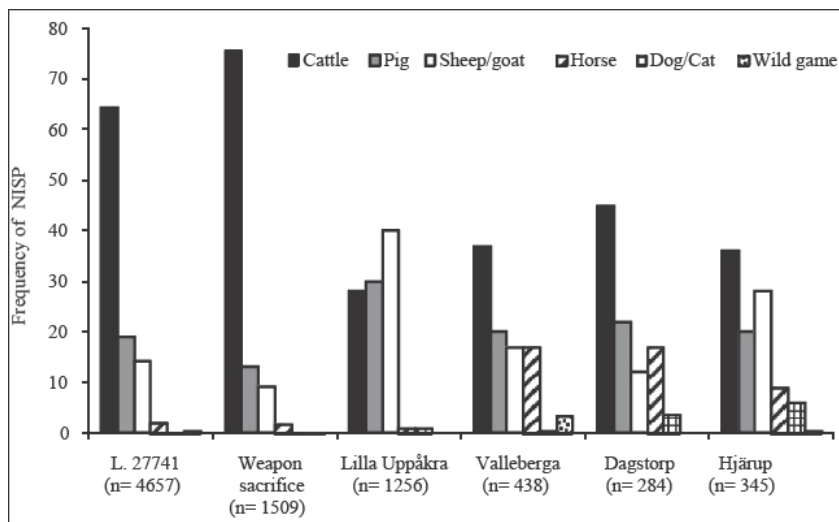


Figure 15.5: Quantification of animal bones from mammals in layer near the ceremonial house (L. 27741), weapon sacrifice and ordinary occupation layers (Lilla Uppåkra) in the south-eastern part of the site Uppåkra in comparison with three other Late Iron Age settlements in Scania. Valleberga (Lepiksaar 1961), Dagstorp (Cardell 1999), Hjärup (Nilsson 1998).

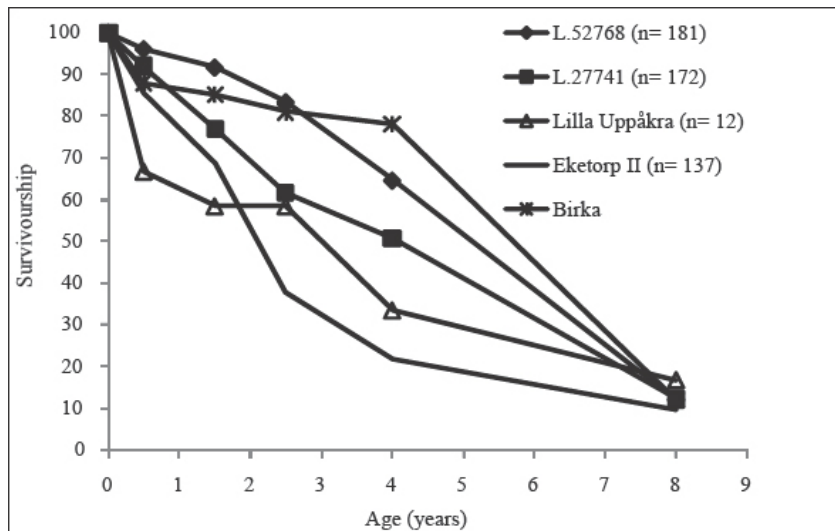


Figure 15.6: Survivorship curves of cattle based on tooth eruption and wear of mandibular dp4 and M3. Ageing according to Vretemark (1997, p. 39).

L. 27741 – layer by the ceremonial house; L. 52768 – weapon sacrifice; Lilla Uppåkra – ordinary occupation layers of the Uppåkra settlement; Eketorp II – Iron Age settlement on southern island Öland (Boessneck et al.

1979, 60); Birka – Viking Age town (Wigh 2001, p. 62).

Pathological changes are few in the sample and indicate healthy animals. The frequency of joint pathology is low and indicates that few of the slaughtered animals are worn-out draught animals. As an example, out of the anterior proximal phalanges only 2% show more advanced exostosis (stage 3) and 10% lipping (stage 3–4); the scoring of joint pathology is according to Bartosiewicz *et al.* (2007).

The killing

The skulls are highly fragmented due to butchering and gnawing making it problematic to identify killing methods. However, a few bone specimens of *os frontale* show impacts indicating that animals were killed by a blow to the head, but it cannot be excluded that other methods of killing were also used. The representation of body parts with an occurrence of bones from all anatomical regions, from the head to the hooves, indicates that animals had been killed in the area.

The season of killing

The seasonality of killing of animals has been studied through age estimation based on tooth development and tooth wear (Silver 1969, Jones 2006, Carter and Magnell 2007). It is problematic with seasonal analyses of domesticated animals, such as pigs and cattle, where reproduction and breeding are not closely tied to a specific period (Björnhag 2004). However, in areas with large seasonal variations in climate and food supply like in Scandinavia, breeding of livestock was in the past usually concentrated in spring, in order to increase the survival of offspring and this has been assumed here (Magnell and Iregren 2010). The reproduction of sheep is biologically linked to seasons, making the bones of juvenile sheep a more accurate and reliable seasonal indicator. The result of the seasonal analysis also shows a more distinct killing period of sheep, which most likely is a reflection of the fact that the reproduction of this species is more seasonal than that of cattle and pigs.

The seasonal analysis indicates that killing took place during different parts of the year, but this killing was not completely random. Most animals seem to have been killed in late summer and early autumn (Figure 15.7). The killing has not been restricted to any specific period, such as the seasonal sacrifices of animals and

feasts known as *blót* from the Old Norse written sources from the Middle Ages, which are thought to describe conditions during the Viking Age (Näsström 2001). The seasonal analysis indicates that the killing seems not been tied to a specific seasonal/annual festival, but instead depended on practical or other factors.

Processing and utilisation

Butchery marks, mainly chop marks and cutthrough bones, show intense processing and utilisation of the slaughtered animals. The result of the analysis of butchery marks show that all body parts were used, except phalanges. The fragmentation and chop marks show a systematic dismembering and cutting of most bones into ten to fifteen centimetres portions, sizeable for cooking in pots. Between the ceremonial house and the weapon sacrifice, an area with many hearths and pits with fire-cracked stones and charcoal has been found. It is probably here the meat has been cooked. Few bones (1% cattle bones) have been exposed to fire and become blackened or calcinated.

Deposition

Bones from all body parts have been found and the body part representation is relatively similar to ordinary settlement refuse from Uppåkra, and shows that most bones from the slaughtered animals were deposited by the ceremonial house (Figure 15.8). However, meaty parts like ribs and scapula, but also the skull seem to be somewhat more frequently deposited. The body part representation show that mandibles have been selected to be deposited by the weapon offering, while bones from the axial skeleton such as ribs and vertebrates are fewer than expected (Figure 15.8). It is possible the meaty parts had been consumed and left near the ceremonial house, while mandibles were selected to be deposited with lance- and spearheads?

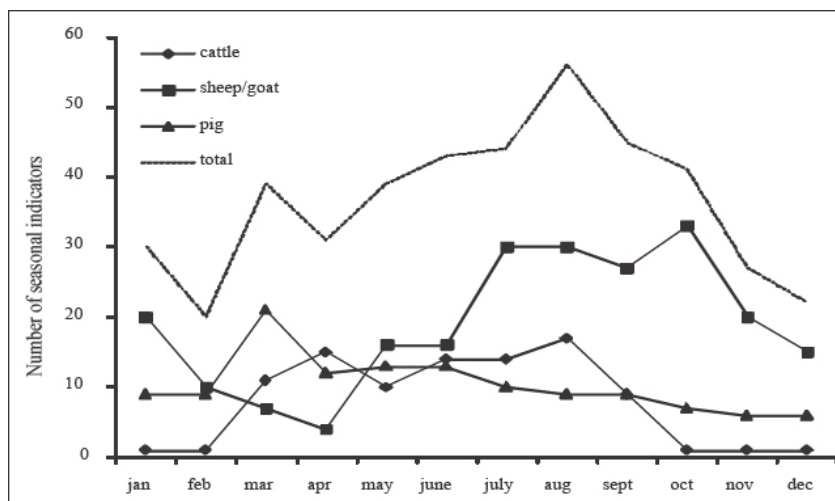


Figure 15.7: Quantification of season indicators based on age estimation of juvenile dentitions from cultural layer by the ceremonial house in Uppåkra. Percentage of livestock, cattle, sheep/goat and pig possibly killed for each month of the year.

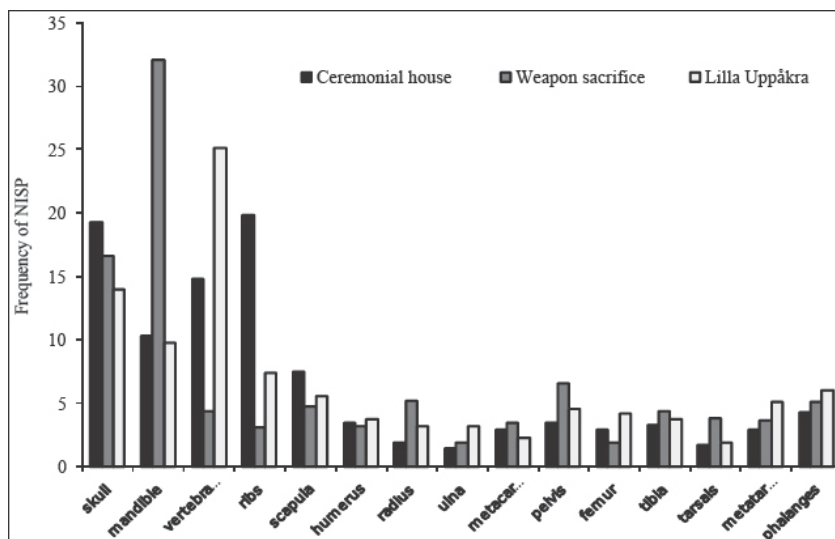


Figure 15.8: Body part frequency (percentage of NISP) of cattle from layer near the ceremonial house, weapon sacrifice and Lilla Uppåkra, ordinary occupation layer in the south-eastern part of the settlement.

The presence of gnawing marks on 10% of the bones indicates that the bones have been left exposed on the ground for dogs and

other scavenging animals. The bones have also been exposed to trampling and the higher occurrence of trampling marks on bones around the ceremonial house, in comparison with the weapon sacrifice, show that this has been a more intensely used area.

Furthermore, weathering also indicates that the bones have been thrown on the ground and that they have been exposed for a while until the accumulation of refuse and the formation of soil covered the bones. That the upper surfaces of the bones often show more weathering and trampling marks than the underside indicates that most of weathering occurred while the bones were lying on the ground.

Discussion – Sacred cows or old beasts?

By reconstructing the taphonomic history it has been possible to follow the chain of events from the selection of the animals to their deposition. The selection of animals shows that it was mainly meat-producing animals and especially cattle that were killed. Cows were slaughtered, but it can be questioned if the slaughtered animals were considered to be sacred. It was not old beasts or draught animals that were slaughtered; rather it was healthy adult animals. It could be questioned whether the selection of cattle for slaughter had any symbolic and religious meaning or not. Possibly, the killed cattle could be viewed as a variant of offerings of gold and weapons, a sacrifice of something valuable. Livestock and especially cattle are in many traditional societies both a symbol and actual units for wealth (Russel 1998, p. 44). Interestingly the Old Norse word for livestock is *fé*, which also meant wealth and property (Moltke 1981). The large quantities of bones, together with the high abundance of cattle and the kill-off pattern indicating that animals was brought in for slaughter from a more extensive area, points towards public feasting of larger groups of people. It is likely that the killing of the animals and feasting involved other rituals, such as offerings of weapons and possibly also human sacrifice.

The taphonomic analysis also shows that cattle seems to have been killed by a blow to the head and that killing seems to have taken place during different parts of the year, but it was possibly concentrated within late summer–early autumn. Butchery marks indicate intense processing and utilisation of carcasses for food, which also indicate large groups of people. The bones seem to have

been intentional deposited on the ground around the ceremonial house and among depositions of lance- and spearheads; the area was not cleaned of food refuse and the material thrown into garbage pits. The large quantities of bones on the ground around the ceremonial house forming a pavement must have resulted in a striking visual effect of shining white bones contrasting with the dark soil, visible for anyone approaching the ceremonial house. This could also be seen as an expression of displaying wealth.

In conclusion, this study aims have shown how it is possible to reconstruct the taphonomic history and follow the chain of events from selection through to deposition, and through this approach better understand the ritual killing of animals.

Acknowledgements

I would like to thank Gyllenstiernska-Krapperup stiftelsen and the Swedish Research Council for funding, my colleagues Adam Boethius and Johan Thilderqvist for help with the analysis, and Karl-Magnus Lenntorp for details concerning the excavations and illustrations.

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Flesh on the Bones: Animal Bodies in Atlantic Roundhouses

Jacqui Mulville, Richard Madgwick, Adrienne Powell and Mike Parker Pearson

Introduction

This paper presents results from the preliminary analysis of a group of unusual animal ‘burials’ associated with the Late Bronze Age settlement at Cladh Hallan, on the Western Isles, Scotland. This analysis draws on previous multi-factorial research undertaken on the human burials at this site (Parker Pearson *et al.* 2005, 2007) and through the application of similar techniques to the animal burials, aims to provide an improved understanding of the modes of pre-depositional and depositional treatment enacted on individual animals. In contrast to the analysis of disarticulated faunal remains, these complete burials have the potential to provide high quality information on particular animal’s lives (births, management, care and handling), deaths (slaughter, butchery, consumption) and burial. Only a small percentage of the animals consumed at the site were selected for deposition as articulated remains and by comparing the different modes of treatment for these animals with the characteristics of the main faunal assemblage, a better understanding of the significance of different species, their exploitation and deposition is possible. This study represents only one line of enquiry in a broader project to model the interaction between humans, animals and the wider environment in the Hebrides (e.g. Smith and Mulville 2004) based on data from the numerous excavations undertaken by the Sheffield Environmental

Archaeological Research Campaign in the Hebrides (SEARCH) and allied projects.

Background

The Outer Hebrides, or Western Isles, are a chain of more than 100 islands and small skerries located about 70 kilometres (43 miles) west of mainland Scotland (see [Figure 16.1](#)). These Isles have a rich archaeological record with evidence for human occupation from the Mesolithic onwards (Parker Pearson *et al.* 2004). From late prehistory onwards the island settlement architecture is dominated by Atlantic Roundhouses and these are often accompanied by extensive middens (Armit 1996; Parker Pearson *et al.* 2004). Many of these sites are located on the calcareous shell sand ‘*machair*’ environment of the west coast and are characterised by deeply stratified deposits that offer an excellent preservational environment for faunal material. A series of excavations on the Isles have produced extensive faunal assemblages that indicate an economy focused on sheep, with cattle of secondary importance and the regular exploitation of wild terrestrial, marine and avian resources (Smith and Mulville 2004). Whilst the majority of faunal remains are recovered from the middens, the islands are unusual in that animal bodies, often interpreted as sacrificial offerings or foundation deposits, are found buried under and within domestic structures from the Late Bronze Age onward (Campbell 1991, 2000; Curle 1944, 1948, p. 21; Dawson pers comm; Mulville *et al.* 2003; Parker Pearson *et al.* 2005; 2007; Parker Pearson and Sharples 1999, pp. 137, 288).

The site

This paper focuses on the long-lived site of Cladh Hallan, on South Uist where activity begins with a cremation cemetery dated to 1940–1450 cal BC (95% probability) and continues with the construction and occupation of a series of roundhouses from the late 12th to early 10th century BC until the early 7th to early 6th century BC (Parker Pearson *et al.* 2005; 2007; Marshall pers comm). A series of human and animal burials were interred immediately prior to and during the roundhouse phases. Detailed analysis of the human burials combined the techniques of osteoarchaeology, histological analysis, radiocarbon dating, mercury intrusion

porosimetry (HgIP), FTIR spectroscopy and Small Angle X-ray Scattering (SAXS) analysis of crystallinity to reveal contrasting levels of preservation and varied modes of treatment. This multi-factorial analysis revealed the presence of two articulated composite skeletons made up of body parts from different individuals who died some time apart and also provided evidence for soft tissue preservation (Parker Pearson *et al.* 2005; 2007). The implications from these findings of curation, deliberate preservation and postmortem manipulation of remains, have altered the perception of mortuary rites in Hebridean prehistory and the techniques employed have the potential to reveal similar details on the peri- and post-mortem treatment of the animal burials. For example, were the apparently articulated animal carcasses buried enfleshed or as stripped bones, are there any composite animal burials and is there any evidence for the preservation of soft tissue?

For the human burials a combination of osteological and histological analyses proved to be the best tool for describing taphonomic trajectories, providing information on processing, preservation and secondary deposition. Histological analysis, which is rarely applied to faunal remains, assesses the preservation of micro-structural features (i.e. the Haversian system) and uses the extent of microbial and fungal attack to provide detail on the burial environment and the peri- and post-mortem treatment of specimens. Histological preservation is affected by the array of physical, chemical and biological agents encountered in the depositional environment (Garland 1987, 121, Hedges *et al.* 1995; Jans *et al.* 2004; Turner-Walker and Jans 2008; Turner-Walker and Peacock 2008) and in most environments microbiological decay commences within a short time of death (Millard 2001, p. 640) with changes in structure observed within three months (Bell *et al.* 1996). If microbial attack initiates it will generally progress to completion with the result that bone is generally either very poorly or very well preserved (Hedges *et al.* 1995, p. 203). It is rare for areas of contrasting preservation to be observed on a single element. In cold and/or anoxic environments such as bogs, microbial attack is prevented, whilst in warm, moist aerobic environments micro-organisms thrive and bones invariably exhibit poor histological preservation.

Peri- and post-mortem practices are also important, for example the processing or cooking of an animal carcass will alter histological

preservation. Entire cadavers tend to exhibit poorer micro-structural preservation, with a higher degree of porosity and microbial attack, than disarticulated remains. This is thought to result from collagenolytic gut bacteria entering and attacking the bone system from the blood supply (Bell *et al.* 1996; Janaway 1996; Jans 2005; Jans *et al.* 2004; Turner-Walker *et al.* 2002). Thus the bleeding, gutting and butchery of animal carcasses should affect micro-structural preservation by removing bacterial agents of decay. At the other end of the processing spectrum, cooking may also make bone less attractive to collagenolytic bacteria through a reduction in the organic fraction although some cooking methods (e.g. roasting) can themselves obliterate the Haversian system resulting in poorly preserved microstructure. Thus for animal remains buried in similar environments, bones from entire, unbutchered animals should exhibit a greater degree of histological decay than disarticulated and butchered bone whilst cooked bone may or may not be affected.

To the authors' knowledge, despite the obvious potential of histological analysis, no analogous studies on animal burials have been carried out and previous research has tended to consider faunal remains merely as human analogues. Initially this was the case at Cladh Hallan, where comparative analysis revealed a generally high degree of destruction in disarticulated, unstratified cattle and sheep bone, as well as in the majority of human remains (Summerfield 2004). However when a small sample of animal burials were examined in a pilot project, examples of well preserved histology were noted (Brown 2008). As a result, further research on a wider range of animal burials was initiated with the aim of elucidating the degree to which specific social practices and general depositional environment are responsible for patterns of histological preservation/degradation. Combining osteoarchaeological with histological analysis will facilitate a reconstruction of the biographies of the buried animals and where possible determine their modes of pre-depositional and depositional treatment, which can in turn be contrasted with the human burials. Issues to be investigated include the selection criteria for the buried animals, the presence of composite animal burials, whether apparently articulated animal carcasses were buried enflashed or as stripped bones and any evidence for the preservation of soft tissue. A secondary aim of this research is to assess the applicability of

histological analysis for reconstructing depositional histories.

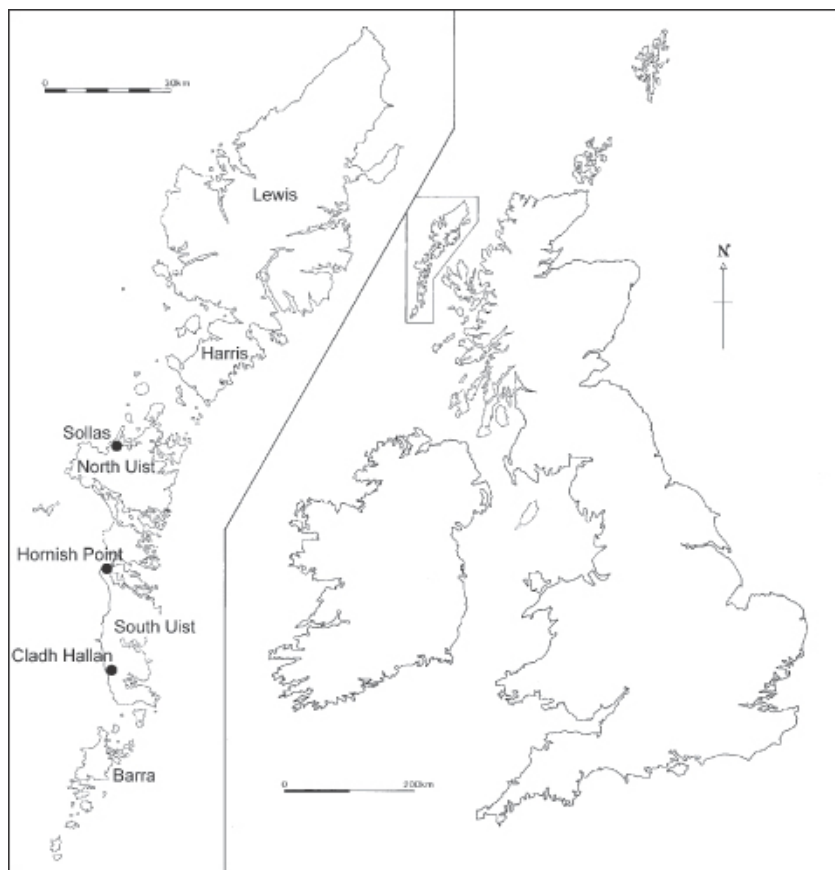


Figure 16.1: Map showing the location of main sites mentioned in the text.

Materials and methods

The examination of the animal burials combined traditional macroscopic analysis with histological analysis of disarticulated and articulated faunal remains. No further measurements of bone porosity or crystalline structure were undertaken.

The Sample

Analysis focused on a range of articulated faunal deposits and disarticulated material recovered from underneath and associated with two of the roundhouses (401, 1370) at Cladh Hallan. The articulated material comprised of a number of animals in varying

levels of articulation and completeness and represents the majority of articulated faunal deposits at the site. Two disarticulated fragments, each of sheep, cattle and red deer from a range of contexts were also analysed to provide a comparison to the articulated remains. Additionally, in one instance a disarticulated sheep fragment recovered in association with an articulated deposit was sampled to provide indications of the preservational attributes of a specific micro-environment. No pig specimens or disarticulated dog elements were analysed as few were recovered from Cladh Hallan. Although samples of control specimens were small and cannot be seen as reliable indicators of preservation across the site as a whole they do provide some measure of differences relating to processing, species and context type. It is not known if any of the samples had been cooked, as the identification of cooked bone (rather than burnt bone) requires further detailed analysis (see Koon *et al.* 2010).

Methods of analysis

Macroscopic

Identification of species, element and collection of data on age, sex and size was carried out at Cardiff University following the methodology of Cardiff Osteoarchaeology Research Group (Mulville 2005, pp. 40–41). The majority of material was identified as articulated in situ and allocated a unique find number. At the analysis stage, for each find group the body parts present, bone measurements, fusion stage and manual fitting of putatively adjacent elements, were used to confirm the presence of a partial or complete skeleton and to distinguish between individuals where more than one was represented. In addition a small number of articulations were identified during analysis.

Detailed macroscopic analysis was restricted to articulated deposits, rather than control samples. Material was examined using a 10× or 20× hand lens as required under a 60 watt lamp. Weathering was recorded following Behresmeyer (1978). To reveal patterns of processing and meat exploitation, butchery marks were recorded in detail with regard to location and purpose. Particular care was taken in differentiating between knife cuts and trampling striations following Andrews and Cook (1985).

Histological

A section of long bone from each sample was removed and polished into a thin section slide. Off-cuts were removed using a diamond wheel, and dried on a hotplate. The rough cut surface was mounted on a glass support slide using Epotek epoxy resin. Once cured, the exposed surface was ground flat using a Petrothin grinding machine, impregnated with Epotek and allowed to cure. To remove surface resin the slide was reground and hand finished using glass plates and silicon carbide grit (1200 grit size) and then cleaned using an ultrasonic bath. This prepared surface was mounted on a frosted glass slide using Epotek and allowed to cure for one hour. The support slide was cut off and the entire sample ground to 50µm using Petrothin and hand finished to 30µm on glass plates. Finally the sample was polished on a Kent lapping machine using 1µm diamond paste.

Using a Leica DMEP microscope, the samples were examined under 100×, 200× and 400× magnification in both polarised and transmitted light. The periosteal, central and endosteal zones were scored using the histological index (after Hedges *et al.* 1995; Millard 2001, see [Table 16.2](#)). Details of the character of microbial attack (following Hackett 1981) and the level of birefringence were also recorded but are not reported here.

Category	Cite	Phase	Find no	Sample No.	House Area	Feat.	Taxon	Age/Season	Sex	Height (mm)	Butchery	Gunning	Sampled Element	Articulated	Approx. Completeness of skeleton and/or elements present	Hta. Index: Endosteal Zone	Hta. Index: Central Zone	Hta. Index: Periosteal Zone
A	806	12	3376	3	401	Pit 807	Dog	Adult	Male	526	N	N	Humerus	Y	50%. No skull or mandible, (no axis or atlas). Forelimbs, ribs and spine.	4	n/a	0
A	1291 659	12	3380	17	401	Pit 1292	Dog	Adult	Male	616	N	N	Femur	Y	75% Skull, mandible, spine, majority of forelimbs, pelvis and left hind limb	0	0	0
A	3325	7	5177	7	1370	Pit 3324	Sheep	4-6 years	Female	587	N	N	Femur	Y	95% Only right calcaneum and left parietal missing	0	0	0
B	792	13	3175	8	401	Pit 7937	Sheep	2-3 years	Female	589	D, J	N	Femur	Y	80% Skull, mandible, thoracic & lumbar vertebrae, left scapula, both sides humerus, radius & ulna, right pelvis, both hind limbs	5	5	5
B	2674	8	4748	5	401	Pit 2673	Sheep	3-4 years	Female	565	D, F	Y	Radius	Y	90% Head, spine, ribs, limbs (excl. femurs & left tibia), metapodia & phalanges	0	0	0
B	855	11	3392	2	Fore court	Pit 863	Sheep	>42 months	Female	n/a	D, F	N	Humerus	Y	25% Trunk elements, scapulae, vertebrae & ribs, pelvis, left humerus & femur	1	0	0
C	2636	8	4761	1	1370	Pit 2635	Sheep	6-42 months	N/A	N/A	J	N	Humerus	Y	30% Pair of Humerus/radius/ulna & carpals	0	0	0
C	473	12	2043	6	NE Area	Ash deposit	Sheep	< 5-7 months	N/A	N/A	N	N	Mentarsal	Y	Right lower hindlimb group, navicular cuboid, medial cuneiform, metatarsal & phalanges	0	0	0
C	792	13	3175	9	401	Pit 7937	Sheep	>2 years	N/A	593	N	N	Mentarsal	Y	Right navicular-cuboid, medial cuneiform & metatarsal	4	5	4
C	452	15	2061	4	401	Burnt deposit	Cattle	Fused?	N/A	N	N	N/A	Radius	Y	Radius, ulna and carpals	0	0	0
D	2674	8	4748	10	401	Pit 2673	Sheep	untreated dist	N/A	N/A	N	N/A	Radius	N	Isolated element	0	0	0
D	467	11	n/a	14	Fore court	Pit 1498	Cattle	N/A	N/A	N/A	N	N/A	Tibia	N	Isolated element	0	0	0
D	468	11	n/a	15	Fore court	Pit 1498 fill	Red deer	N/A	N/A	N/A	N	N/A	Radius	N	Isolated element	0	0	0
D	655	11	n/a	12	401	Floor	Sheep	N/A	N/A	N/A	N	N/A	Humerus	N	Isolated element	4	4	4
D	1290	11	n/a	16	401	Floor	Cattle	N/A	N/A	N/A	N	N/A	Metatarsal	N	Isolated element	0	0	0
D	1290	11	n/a	11	401	Floor	Red deer	N/A	N/A	N/A	N	N/A	Radius	N	Isolated element	0	0	0
D	1447	11	n/a	13	Fore court	Pit 897	Sheep	N/A	N/A	N/A	N	N/A	Tibia	N	Isolated element	0	0	0

Table 16.1: Details of samples and results of macroscopic and histological analysis. Withers heights were calculated following Harcourt (1974) and Teichert (1975). In the butchery column 'F' refers to filleting, 'J' to jointing and 'D' to disarticulation. Deposit 3376 has no histological index values for the central zone due to the element having a very narrow cross sectional area.

Index	Approximate % of intact bone	Description
0	< 5	No original features identifiable, except that Haversian canals may be present
1	< 15	Haversian canals may be present, small areas of well preserved present or lamellae structure is preserved by the pattern of destructive foci
2	< 50	Some lamellate structure is preserved between the destructive foci
3	> 50	Some osteocyte lacunae preserved
4	> 85	Bone is fairly well

		preserved with minor amounts of destructive foci.
5	> 95	Very well preserved, virtually indistinguishable from modern bone.

Table 16.2: Descriptions of histological index scores (from Millard 2001).

Results

The osteological and histological results for all of the seventeen articulated and disarticulated samples are presented in [Table 16.1](#). Osteological analysis of the relatively complete burials within the sample revealed that sheep were the most commonly selected animals with seven sheep, two dogs and a single cattle deposit present. The sheep are deposited throughout the sites occupation history starting with 5177 in 1440–1255 BC (95% probability) and concluding with 3175 in phase 13 between 705–575 BC (95% probability), whilst the two contemporaneous dog burials occur late in the sequence (810–540 BC) (Marshall pers comm.). The sheep were predominantly adult females of average height for the Isles (see Mulville 1999), the majority of which had been butchered. The two dog skeletons were both large adult males, whilst the single cattle limb was also from an adult animal. Although this research is focused on larger groups of articulated material it is still noteworthy, particularly for the butchered animals, that many of the skeletons are nearly complete.

For ease of discussion the seventeen samples have been divided into categories based on the osteological evidence for articulation and butchery. These are A: articulated complete or semicomplete individuals without recorded butchery, B: articulated complete or semi-complete individuals with recorded butchery, C: articulated limbs or parts thereof, D: disarticulated fragments.

Category A – Articulated deposits with no butchery

Samples assigned to this category comprise one adult female sheep and two dogs of differing sizes; all were recovered in articulation and in the absence of any butchery are assumed to have been uncooked. Sheep 5177 preceded house construction, and was placed on her side in a pit ([Figure 16.2](#)); this skeleton was almost

complete, with only a few small elements, such as tarsals and a patella, missing. The larger dog (3380) was lying on its front in a pit and had most of the skeleton present, excepting the right forelimb. It is likely this animal was killed *in situ* as coprolites were recovered in association with it. This specimen was used as a comparator for bone porosity for the human burials and demonstrated a higher degree of degradation than the composite male (burial 2638 in Parker Pearson *et al.* 2005, 2007). Both of these animals show osteological characteristics suggestive of the swift burial of entire, fleshed individuals and the results from histological analysis indicate poor preservation in all zones (scores of 0) suggestive of the presence of *in situ* collagenolytic gut bacteria.



Figure 16.2: Plan of sheep burial (5177).

The second dog (3376), found close to dog 3380, was also lying on its front in a pit. This skeleton was cut by a later posthole, removing the hindquarters, and some of these elements were

recovered from this feature's fill. The skull and associated cervical vertebrae were missing from the undisturbed skeleton, and the pit was too small to have ever accommodated these elements in articulation (Figure 16.3). Although no butchery was observed, the pit dimensions and the presence of the smaller extremities, such as phalanges, all suggest deliberate removal of the head, rather than its loss being a consequence of soft tissue degeneration prior to burial.



Figure 16.3: Photograph of dog burial (3376). (Photo: Mike Parker Pearson).

Histological analysis of this dog's humerus showed contrasting patterns of preservation on the inner and outer surfaces with a clear interface; due to the thin cross section the central zone was not assessed. The periosteal surface was poorly preserved with a ragged edge resulting from postdepositional degradation. The darkened areas of the cortex indicate microbial attack with angular black cracks representing infiltrated micro-fissures (Figure 16.4). In contrast, the endosteal surface is well preserved, with histological features such as osteocyte lacunae clearly observable and only minor areas of bacterial attack (Figure 16.5). Areas of reduced mineralisation, demonstrated by lower electron reflectivity (i.e. a dull grey colour) (Turner-Walker and Jans 2008, p. 231), were visible within this well preserved zone. This contrast in preservation across the bone suggests an arrest in microbial attack.

Category B – Articulated deposits with butchery

This category comprises three butchered articulated sheep deposits. Relatively complete collections of articulating material are generally taken to be indicative of the deposition of material still joined by connective tissue; however in all three cases there is osteological evidence for processing (accompanied in one case by gnawing) which suggests the careful collection of dissociated remains and deposition in individual pits.

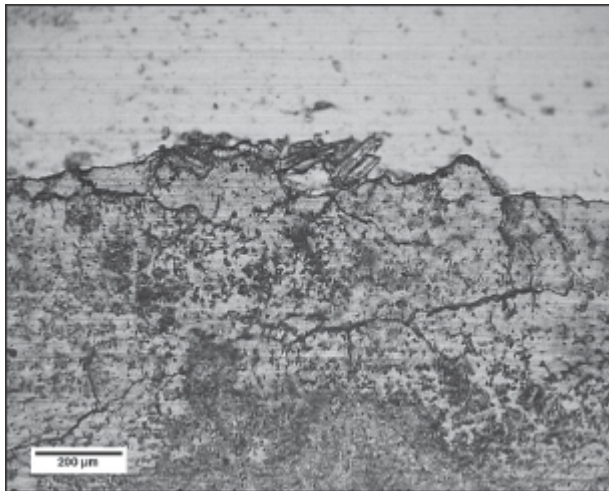


Figure 16.4: Periosteal zone of humerus from dog burial (3376) showing micro-fissuring, swathes of microbial attack and a loss of microstructural features.

Sheep 4748 was largely complete, with only a few missing hind limb elements. Butchery indicative of disarticulation and filleting provides evidence that this carcass was exploited for meat whilst canid gnawing suggests it was, at least briefly, sub-aerially exposed. The second sheep, (3392), is less complete, comprising the trunk and part of the limbs and again butchery marks indicate both disarticulation and filleting. For both these sheep the sampled elements exhibit very poor histological preservation (see [Table 16.1](#) and [Figure 16.6](#)), consistent with that expected from bones accompanied by soft tissue (Bell *et al.* 1996; Janaway 1996; Jans *et al.* 2004; Jans 2005; Turner-Walker *et al.* 2002), but this explanation is at odds with the evidence for secondary and tertiary butchery (carcass division and removal of meat). These results

suggest that the histological preservation is dictated by burial environment.

The skeleton of the third sheep (3175) showed similar levels of completeness and butchery but differed in that it exhibited well preserved histology in all zones of the sampled femur. The fill of this pit (792), consisted almost entirely of tightly packed bones, derived mostly from this burial, with little associated sediment. An articulated lower right hind limb from this context was also analysed (see category C).

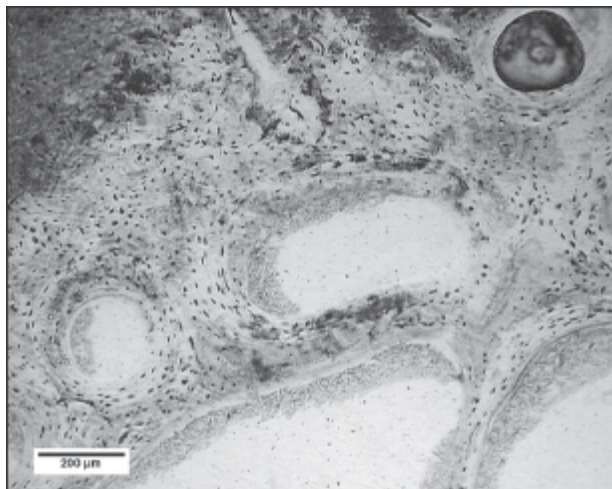


Figure 16.5: Endosteal zone from dog burial (3376) showing well preserved histology. The large holes in the matrix occur naturally in bone's cancellous structure, one of which has become darkened through the infiltration of resin from the production of the slide.

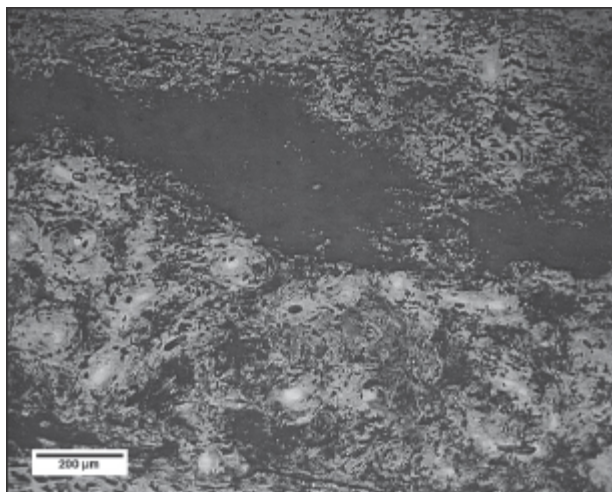


Figure 16.6: Central zone from sheep deposit (3392) showing very poorly preserved histology and extensive microbial attack.

Category C – Partially Articulated Limb Groups

This group includes three articulated sheep limbs and a cattle limb. Find group 4761 comprises two largely complete forelimbs of a sheep, with butchery marks associated with their removal from the carcass. This pair of limbs is similar to the category B deposits in that they have been processed and placed in a discrete deposit rather than being deposited routinely. None of the other category C deposits exhibit evidence of butchery. The two other sheep limbs are consistent with primary waste. Both are right lower hind limbs, the first, found in association with the category B sheep skeleton (3175), comprises of an articulating metatarsal and tarsals. The second (2043) includes all elements distal of the astragalus. The cattle deposit (2061) consists of a left radius, ulna and carpals; this restricted range of elements may be an incidental deposit, but full processing of the limb would be expected.

These isolated limbs are unlikely to have been accompanied by offal, or to have been cooked and as such may show a difference in preservation. However with the exception of the limbs associated with group 3175, the deposits in this category generally exhibit poor histological preservation. This suggests that in this environment the presence of *in situ* gut bacteria is not the only important factor dictating the microscopic preservation of bone. In contrast the metatarsal/tarsals from 3175 demonstrate the same

excellent preservation as the associated sheep skeleton. This atypical histology may relate to the unusual character of the depositional environment, as noted above the pit fill was made up almost entirely of bone.

Category D – Disarticulated fragments

The disarticulated control samples are likely to have been subject to a significant level of processing and weathering and macroscopic and histological analysis should reflect this. The majority exhibited poor micro-structural preservation regardless of context type, location, species or element. Two elements are worthy of further discussion. Sample 10, a disarticulated radius, demonstrated the same poor histological preservation as the associated category B sheep skeleton (4748).

Sample 12, a sheep humerus, recovered in a house floor was the only exception to the pattern of poor preservation. This element was macroscopically the most poorly preserved, with cortical flaking, weathering and erosion noted; however, it showed excellent histological preservation (score 4 for all zones). The element had clearly been sub-aerially exposed prior to incorporation into a subterranean deposit. It is possible that the collagen degraded during this period making the bone less susceptible to microbial attack once buried.

Discussion

The presence of articulated animal remains at any site is noteworthy, the accepted norm would be for animals to be butchered and consumed and their remains dispersed, as is the case for the majority of the Cladh Hallan assemblage. Why particular animals are selected for differential treatment can be first examined through a comparison with the disarticulated faunal remains. At Cladh Hallan the abundance of sheep burials is related to their general importance as livestock although they are more predominant in the burials than they are in the general assemblage. On the other hand the small number of cattle articulated groups (one part limb deposited latest in the sequence – phase 15) and the complete absence of articulated deer are at odds with their economic role; at Cladh Hallan cattle and deer are more numerous than dogs. Pigs are rare overall and remain absent from any

articulations. The size, age and sex data for sheep suggests that the deposits represent female breeding stock, of average stature and killed either at or just past their prime. They were somewhat older than most of the main assemblage, where the largest mortality peak occurred between 6 and 12 months. The presence of the dog burials is unusual, as dogs are rare within Hebridean assemblages and are never found as burials (unlike elsewhere in Britain, see Hill 1995; Morris 2008). It is also interesting to note that the larger of the dogs, at 61 to 63cm, is amongst the tallest of all British prehistoric dogs (Clark 2006).

Whilst standard osteological analysis provides excellent evidence for periand post-mortem practices it was hoped that the histological evidence would add more detail, particularly with reference to indicating whether remains were defleshed or enfleshed on burial. The results indicate no clear relationship between histological and butchery evidence, instead it appears that the norm is that all bone, both processed and unprocessed, suffers a high degree of histological damage. The majority of bone within each category shows significant damage, even for remains obviously defleshed and processed. With this in mind, it is the histologically well preserved remains that are of most interest. This section of the discussion considers each of the categories in turn and whilst a full contextual and comparative analysis of the faunal burials at Cladh Hallan is beyond the scope of this paper, it uses all available evidence to discuss the biographies of these animals.

In category A the two contemporaneous dog burials, deposited late in the sequence, showed different modes of peri and post-mortem treatment. Whilst osteological evidence indicated that neither articulated skeleton was butchered, the histological analysis revealed contrasting level of microstructural preservation. Dog 3380 conformed to the expected pattern for a minor, unexploited, non-food species with substantial histological damage suggesting the dog carcass was enfleshed on burial and became subject to a significant level of microbial attack (e.g. Jans 2005; Jans *et al.* 2004; Turner-Walker *et al.* 2002). However, in dog 3376 there is a contrast in preservation between the periosteal and endosteal areas similar to that reported in the adult male femur from Cladh Hallan (Parker Pearson *et al.* 2005; 2007; Summerfield 2004), suggesting that decay was initiated but later arrested. In both cases the distinct interface between areas of good and poor preservation is indicative

of a rapid change in environment sometime after burial. Although soil chemistry and hydrology can alter over time (Turner-Walker and Jans 2008, p. 277), it is highly unlikely that this would be sufficiently rapid to produce this pattern. The alternative is that this animal was killed elsewhere, decay initiated and then arrested through a move to a different, preservative environment prior to final burial. For the adult male from Cladh Hallan, observed changes in microporosity and crystallinity led to the suggestion that this preservative environment was a peat bog (Parker Pearson *et al.* 2007). Without undertaking similar research on this canid it is only possible to be confident of a change in burial environment which could include specific treatments to enhance preservation. Possible scenarios include wind-drying, heat-drying, tanning, pickling, or bog deposition prior to final burial (Parker Pearson *et al.* 2005, p. 541). For the dog, the only further evidence is areas with reduced levels of mineralisation in the well preserved endosteal zone. These could point to deposition in an environment with a low pH or the chelating action of sphagnum (i.e. a bog) (Painter 1995; Turner-Walker and Jans 2008), but as this does not correlate with the final depositional environment of the pits, it would have to relate to an earlier phase in the taphonomic history of the remains. Combined with the evidence of the deliberate removal of the head, this provides support for diverse modes of predepositional treatment concerning this dog.

As with dog 3380, the other category A deposit, sheep 5177, was subject to microbial attack throughout the bone matrix, consistent with being buried fully enflashed and having only a single phase in its depositional history. However, unlike the dog, the loss of this food animal would represent the substantial loss of approximately 9 to 13kg of meat to the community (Finlay 1984). Although the animal was close to prime meat age, thereby emphasising the potential sacrifice, it cannot be discounted that it died through disease and was therefore not deemed fit for consumption. However, its context of deposition argues against this.

Evidence suggests that the three relatively complete Category B sheep (articulated but butchered) were all processed in similar ways, with marks indicative of disarticulation on all three deposits, with two also displaying evidence of filleting. The articulated, fairly complete state of the burials (especially 3175 and 4748) suggest that after processing (and presumably meat exploitation), bones

were collected and rearticulated in burial, although it is plausible that they remained attached by remnant soft tissue, in spite of the disarticulating butchery marks. Both 4748 and 3792 showed homogeneously poor levels of histological preservation, with 3175 being very well preserved throughout. With poorly preserved remains the norm at Cladh Hallan, the excellent preservation of this deposit is intriguing. This may be a product of a unique burial microenvironment (see Category B results), where the tight packing of disarticulated bones, provided excellent preservational conditions (with little sediment matrix) and is supported by the good preservation of the associated hind limb group. Alternatively, as noted above for the well preserved dog, these patterns could relate to different modes of pre-depositional treatment with elements either placed within an environment conducive to good preservation (e.g. an anoxic environment) or transformed prior to deposition, for example by cooking. The latter would result in a substantial loss of collagen, making elements less attractive to agents of histological decay. It was hoped that the histological analysis of material of the processed articulating remains (Category B) would provide essential information on the presence or absence of associated soft tissue. However the contradictory evidence for poor preservation in both fully articulated and disarticulated remains means that no conclusions can be drawn from the similarly preserved Category B remains. Instead, constructing depositional histories for these animals continues to largely rely upon standard zooarchaeological techniques.

Reconstructing biographies from the far less complete category C group is more difficult. Although only one of the four deposits exhibited butchery evidence their incompleteness confirms that they underwent a substantial degree of processing prior to burial. Element representation indicates that two of the four deposits, both from sheep (3175 and 2043) may well be primary waste, as they comprise no major meat-bearing elements. Although deposit 2043 is poorly histologically preserved, as would be expected for an articulating limb buried at least partially fleshed, its intentional burial does represent a non-normalised mode of deposition. This is the case as primary waste would usually be discarded indiscriminately and disarticulated through scavenging agents such as canids. Deposit 3175 is different in that it is deposited alongside a more complete sheep and displays the same excellent level of

histological preservation as the more complete Category B sheep (also find no. 3175). As stated above the excellent preservation may relate from predepositional practice but could alternatively result from the exceptional nature of the context. The cattle limb (2061) is unlikely to be primary waste as the radius is a major meat-bearing element and therefore full processing would be expected. The lack of other evidence and poor histological preservation (which is the norm at the site), make further interpretation speculative, but unless the meat was spoilt it would represent a moderate sacrifice to the community. The two largely complete forelimbs of a sheep (4761) differ from other Category C deposits in their completeness and cannot be regarded as primary waste. The poor histological preservation is of limited interpretative value, however interestingly, butchery shows that elements were jointed (divided into more easily consumable portions), but were again placed in close articulation in deposition. This may indicate a symbolic sacrifice to the community, whereby meat was exploited but the skeletal remains were re-articulated to show a concern for the deposition of complete limbs.

Further along the processing spectrum, the degree of exploitation apparent within the bulk of the faunal remains, representing typical food waste, is hard to discern. The poor histological preservation of the disarticulated bone, demonstrated both here and in Summerfield (2004), is unlikely to be due to the presence of gut bacteria but could reflect other post-mortem processes such as cooking (e.g. a mode of processing that did not cause a substantial loss of collagen may have been favoured). Alternatively, the local machair environment may produce conditions particularly conducive to microbial attack. Bones are invariably well preserved and isotopic research has demonstrated excellent collagen yields (Mulville *et al.* 2009), which may make bones more attractive to collagenolytic bacteria. However, further research on the relationship between collagen preservation and microbial attack is required in order to elucidate whether this may be partially responsible for patterns. In addition it would be of interest to undertake histological analysis at the nearby site of Hornish Point (see below), where the evidence suggests a greater degree of carcass processing and marrow extraction.

Integrated evidence of articulated faunal deposits at Cladh Hallan clearly demonstrates a high level of complexity and diversity in

practices. The modes of pre-depositional treatment and depositional practice do not show clear patterns pertaining to specific taxa and do not vary according to chronological phase. Practices are clearly multifarious, although it is interesting that red deer were not favoured for deposition despite being common in the domestic assemblage, therefore suggestive of a separate status (Mulville and Thoms 2005). However, this could also be explained functionally, as larger animals such as red deer and cattle (for which only a single articulated limb was recovered) would represent greater sacrifices to the community and require greater effort to bury. Further issues have been raised by the integrated analysis. For example, in light of the emphasis on re-uniting individual animals after processing the assumption that carcasses of food animals without obvious butchery marks were not exploited for meat may be incorrect. Nor were all of the butchered and reunified animals necessarily fully processed and/or cooked. Unfortunately histological analysis has in this instance not provided a means by which to resolve these issues.

The reconstructed life histories of the animals at Cladh Hallan can be compared with those available from standard osteological analyses of the articulated fauna recovered beneath the later wheelhouses lying to the north at Hornish Point and Sollas ([Figure 16.1](#)) (Barber *et al.* 1989, Campbell 1991, 2000). About one hundred years after the last burial at Cladh Hallan, the skeleton of a 12 year old boy along with two cattle and two sheep, was placed in four pits underlying the wheelhouse at Hornish Point. Then at around 100 AD a total of 85 animal burials (and cremations) were deposited at Sollas within numerous pits in the wheelhouse floor. Articulated animal remains at these sites included sheep, a larger proportion of cattle and a small number of pigs (Barber *et al.* 1989; Finlay 1984). Deer on the other hand are not deposited as burials at any site and have a special significance in the Western Isles (Mulville *et al.* 2003, p. 32; Mulville and Thoms 2005). At Hornish Point the cattle and sheep were slaughtered when prime meat animals, in their second or third year, and interpreted as the remains of feasts associated with extended funerary rites (Barber *et al.* 1989, p. 777). At Sollas the age profile differs with the 31 cattle and 54 sheep dominated by neonates, described as incidental deaths appropriated as foundation deposits (Finlay 1984); the remaining material derived from a wide age range but included a number of

prime meat animals.

The three sites have similarities in the peri- and post- mortem treatment of animals. At Hornish Point and Sollas individual animals were also placed in pits as both unprocessed and processed carcasses. At Hornish Point the cattle and sheep burials bore evidence of dismemberment and filleting, with the cattle also showing signs of skinning and marrow extraction and some canid gnawing (Barber *et al.* 1989). Additionally the boy was subject to pre-depositional processing, being chopped through the spine with further division of the partially decomposed body prior to burial (Barber *et al.* 1989, p. 775). At Sollas individual butchery descriptions for each animal are not available but Finlay (1984) noted that many burials were missing heads and feet and/or showed butchery marks associated with carcass division and processing, identical to material recovered within the floors/midden. In all of these cases there appears to have been a concern with keeping the skeletal components of individual animals separate for burial, even when the contemporaneous processing and deposition of multiple animals occurred. For example, at Hornish Point, where division of the boy suggests that the four pits were filled simultaneously, the two cattle were placed in separate pits with even small splinters recovered and placed with the relevant burial (Barber *et al.* 1989, p. 775).

The major difference between the three sites is the greater emphasis on cattle within the later articulated groups, although overall relative abundances remain similar. This suggests that cattle become a more appropriate animal to bury, despite the loss of more resources to the community. Indeed in the Late Iron Age both cattle and deer remains also become the focus of different acts of structured deposition focused on hearths (Mulville *et al.* 2003). Otherwise all three sites appear to be part of long running tradition that can be traced from the pre-house sheep burials at Cladh Hallan to the repeated deposition of numerous animals, both as burials and cremated remains, at Sollas. Atlantic roundhouses show internal structuring of deposits which is considered to have cosmological significance (Parker Pearson and Sharples 2004) and the deposition of selected animals within these structures affirms the importance of the home as the focus for ritual activity.

Conclusion

Animal burials at Hebridean sites are unique within later British prehistoric traditions, both in their incorporation within houses, the intensity of deposition and in the choice of species. At Cladh Hallan the majority of burials were of sheep, the most common food species, with cattle, deer and pig rarely or never incorporated. The majority of these articulated remains were exploited prior to burial and the re-integration of individual bones points to a concern with individuality that is played out through history at later sites. The identification of the contemporaneous burial of two, almost complete, dogs within the centre of the house represents a unique example of animal deposition. The combination of zooarchaeological and histological techniques has provided new insights into animal depositional practices. The recognition of non-normative practices in the unique dog burials, both subjected to very different modes of treatment, is startling. This suggests that unusual practices of post-mortem manipulation were applied to both human and animal remains. Dogs are considered to have a unique relationship with humans and the size, treatment and placement of these animals confirms their special status. Further detailed contextual analysis of the animal burials, incorporating the full range of faunal, artefactual and spatial information forms the subject of future papers.

The comparative approach has also demonstrated that histological analysis is a complex and problematic line of enquiry for reconstructing the peri- and post-mortem treatment of animals. Results firmly support the findings of Hedges *et al.* (1995, p. 203), in that the majority of samples are either well or poorly preserved in all zones of the bone, with an emphasis on the latter. Therefore if microbial attack commences, it generally permeates the entire bone. Due to the plethora of factors affecting histological preservation, it does not on its own provide a tool for the reconstruction of modes of treatment, as equifinality represents a substantial barrier to confident interpretation. However, it represents a useful complementary source of evidence when combined with other lines of enquiry. In particular, it has the potential to identify remains which have been subject to more complex, non-normalised modes of pre-depositional and depositional treatment (e.g. dog 3376).

This research also demonstrates the need for detailed comparative sampling to provide information on the preservational

characteristics of the local environment. Further research integrating these analyses with measurements of microporosity and crystallinity (Parker Pearson *et al.* 2005) and with Transmission Electron Microscopy (Koon *et al.* 2010) has the potential to add further detail to on treatment of faunal remains and the effect of cooking on bone histology.

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“Stone Dead”: Dogs in a Medieval Sacral Space

László Bartosiewicz

Introduction

A special relationship between people and dogs seems as old as domestication. In the absence of written sources, sharing the same sacral space in prehistoric burials is widely seen as the most tangible archaeological evidence of this bond both in Eurasia and the New World (Davis and Valla 1978, p. 608; Nobis 1979; Blau and Beech 1999; Morey 2006, p. 168). In her review of early medieval Germanic dog burials, Prummel (1992) summarised finds in 271 graves from various countries in Europe. Humans were interred in the company of dogs most commonly in Scandinavia, in over half of the cases analysed. Such joint graves hardly reached one quarter of all dog burials in the rest of the continent and Britain. This spatial pattern is congruent with a diachronic trend: human/dog burials by Thuringians, Franks, Alamans and Lombards in Central Europe (as well as Anglo-Saxons in Britain) may be dated to the 5th–8th century. Saxon and Friesian human/dog burials toward the north are characterised by 7th–9th century dates. The youngest examples in Scandinavia occur within the 7th–11th century time interval. Gräslund (2000, p. 86) attributed this trend to the expansion of Christianity in Europe.

Such dogs were commonly identified as indicators of status or as companion animals buried alongside their masters such as the two dogs found in a post-AD 568 Lombard inhumation in Ménfőcsanak, Hungary (Bartosiewicz 2009, p. 29). Should this be a valid interpretation, one may presume that these dogs were kept for

personal emotional gratification. According to the ideologically more complex approach proposed by Gräslund (2004, p. 167) dogs buried with people may have been “a medium on the border between the living and the dead, and in all likelihood the archaeological material reflects this important symbolic-mythological meaning in the transformation from life to death”. Naturally, the two possibilities are not mutually exclusive.

The subsequent absence of dog remains from Christian burials can be illustrated here by some negative examples in medieval Europe. All relevant archaeological evidence was recovered away from consecrated cemeteries as ecclesiastical law forbade the burial of unbaptised children, criminals and animals in hallowed ground (Zawadzka-Antosik 1973, p. 369). A collective dog burial was found in association with a 12th-century child's grave in Stradów, Poland (Rogozinska-Goszczynska 1964, p. 349). Another rare, 11th-century human/dog burial is known from Visegrád-Várkert, Hungary. It was interpreted as a “witch burial” outside the cemetery since it contained the mutilated body of a woman interred in the company of six dogs (Vörös 1991, p. 186). In a presumably 14th-century burial from Grzybów a human embryo was found with at least three dogs (Garbacz 1992, p. 218). Notably, multiple dog skeletons and the state of human bodies are not indicative of the usual positive relationship between dogs and their masters in these odd burials.

While Christian archaeological contexts tend to be devoid of animal remains, medieval ecclesiastic art is rich in animal imagery. A popular interpretation of dogs (as well as lions) in medieval effigy sculptures suggests that they fulfilled an apotropaic function, protecting the deceased. Could they be seen as a Christian re-interpretation of suggested roles for dogs in pre-Christian funerary contexts? In this paper potential links are explored between animals that were literally sacrificed and those whose artistic representations may have served comparable symbolic purposes.

The stone dogs of Lisbon

Construction of the Lisbon cathedral – Sé de Lisboa, the oldest church in the Portuguese capital – began in 1147 (Dias 1994). This high-status, medieval urban structure was erected on top of a small elevation in the narrow coastal plain running along the northern edge of the protected, brackish bay that is formed by the mouth of

the river Tejo on the east.

During the past 860 years, the building was damaged by several earthquakes and has repeatedly been rebuilt and modified. King Afonso IV “the Brave” (1291–1357) had the main chapel converted into a royal pantheon, much of which was destroyed by an earthquake in 1755. These may all be regarded as episodes during the “taphonomic history” of the original church: earthquakes probably inflicted the most massive of the mechanical effects, while in spite of their progressive and artistic intentions, rebuilding (as well as the occasional scavenging of church rubble for neighbouring buildings) falls within the concept of human bioturbation. In spite of all this damage and transformation, however, stone is one of the best known materials from the Middle Ages, selectively preserved by its physical properties that vary by geological composition determined by choices and decisions made at the time of construction.

The cathedral’s ambulatory survived wars and natural disasters. Its chapel devoted to the twin saints, São Cosme and São Damião contains three mid-14th century Gothic marble sarcophagi (Dias 1994). One of them belongs to Lopo Fernandes Pacheco, 7th Lord of Ferreira de Aves, a nobleman in the service of Afonso IV. The other contains the remains of his wife, and the third is the tomb of an unidentifiable princess. Lopo Fernandes Pacheco was one of the most important personalities during the reign of Afonso IV (Lourenço 2006, p. 54). What makes his character interesting in this study is that on top of his sarcophagus, his body is guarded by a rather large dog lying on alert by his feet ([Figure 17.1](#)).



Figure 17.1: Largish dog on the marble sarcophagus of Lopo Fernandes Pacheco in the chapel of São Cosme and São Damião.

The “biostratonomic” interpretation of this stone animal can be as manifold as that of any archaeozoological find. While dogs are not known to have served as food animals in the royal court at the time (thereby escaping primary butchery), this species has been chosen by the artist from the “fauna” of a high status environment, as an attribute to an evidently powerful person. It represents an animal that prior to the introduction of Christianity would possibly have been placed in the grave of its master as a companion for the eternal journey to serve him in the afterlife. In that case, its skeleton – unlike those of ordinary livestock – would have been recovered without signs of primary butchery and subsequent carcass

partitioning. The symbolic embodiment of the animal in another medium seems a viable alternative, showing that dogs must have been important for ruling nobility from a number of viewpoints, including self-representation. The context also implies the animal's well known iconographic meaning as a faithful companion, loyalty – a rare but probably precious commodity in political circles – being cherished in the royal court.

This artistic representation compensates for one important form of taphonomic loss in real archeozoological assemblages. The stature of this medium-large size dog may have been estimated from its limb bones as long as they survived in full length, a good possibility with pets that are not dismembered for food. The shape of its ears, however, could never be reconstructed. No cranial features of this animal would reveal that it once had a distinctly floppy ear, even if this feature in the living animal defines its characteristic houndlook. This shape is a result of domestication, and seems to be common in medieval iconography and heraldic art, such as the coat of arms of the Hont (= Hound) family in Hungary, shown in the late-14th century illustrated chronicle (Daróczi-Szabó 2006, p. 90, fig. 5). Naturally, the question may be raised whether this shape, surviving solely in the iconographic record, may have been disproportionately propagated through art schools, pattern books and court artists of international reputation as a *topos*. Given the fact that many dogs probably lived in medieval cities as scavenging mongrels, it is also possible that certain breeds (or purebreds to begin with, such as those having floppy ears) meant status – like English hunting dogs have an air of aristocracy even today. A hunting dog would also be an attribute related to a high-status, aristocratic and largely male activity.

On another sarcophagus, the wife of Lopo Fernandes Pacheco, Maria de Vilalobos is shown reading a Book of Hours, with two small dogs at her feet, and another along her left lower leg. The walls of the sarcophagus are decorated with coats-of-arms of the Vilalobos (“Town of Wolves”) family, each depicting pairs of wolves looking left, carved in high-relief (Figure 17.2). These wolves may be seen as images “imported” from heraldic art that had formed long before the sarcophagus was carved: they had been adopted from the wilderness, with all their fierce symbolism. Current zoological knowledge that they are ancestors of the lapdogs shown on the same sarcophagus of this aristocratic lady is irrelevant here:

rooted in creationism, even 18th-century Linnean taxonomy, considered wolf and dog two completely different species. Suggesting any relation between lapdogs and wolves within this iconographic context, would therefore be misleading. Pluskowski (2006, p. 149) mentions a “bulk of early heraldic wolves... from fourteenth-century coats of arms”. His examples of these beasts being associated with family names are Roger Louthe of Wolverton (1361) and Roger de Wolferstone (1367). Evidently, however, this usage would not have been limited to Britain. Heraldic wolves also become more numerous in Scandinavia by the 14th century, and in Navarre they outnumber lions as personal emblems (Pluskowski 2006, pp. 151–2).

It is rather worth focussing our attention on the small dog depicted near the left shinbone of Maria de Vilalobos. On closer inspection it may be identified as an “active taphonomic factor” embedded by selective preservation in a precious work of art (carved in a durable material, stored at a high status urban location and miraculously escaping both man-made and natural disasters).

In comparison with the highly stylised pictures of its forefathers on the side panels of the sarcophagus, or even the aristocratic pooch watching the eternal sleep of Lopo Fernandes Pacheco, this small beast displays little dignity. In contrast to the massive collar of that dog, this one wears little bells around the neck and it devours a chicken’s head ([Figure 17.3](#)).



Figure 17.2: (Above) The sarcophagus of Maria de Vilalobos in the chapel of São Cosme and São Damião. The framed section is shown in [Figure 17.3](#).



Figure 17.3: (Right) Detail on the sarcophagus of Maria de Vilalobos in the chapel of São Cosme and São Damião.

This is probably where the magnificent Gothic sarcophagi in the chapel of São Cosme and São Damião reach their most mundane taphonomic content. Bits of zoological information originating from the sphere of consumption enter this sacred space even in the form of an animal body part of no utilitarian value to humans. In

traditional aesthetic terms, it is likely a *memento mori*, often displayed in the form of flies, piles of garbage or images of bones deliberately spoiling the most idyllic scenes in Medieval and Early Modern Age iconography, even if a message reminding people of death may look somewhat tautological on a grave monument. This chicken head, however, may also be seen in a broader cultural context. A possible definition of refuse is in relation to order, as its diametric opposite: “the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements” (Douglas 1966, p. 36). This is the clear antithesis of entropy in nature. The mere recognition of refuse (on the way of universal “homogenization”) depends on its contrast to a symbolic order, to which refuse does not belong. And this seems to be the case in this work of art, very much the same way as in real life in medieval towns.

On the third sarcophagus an unknown princess is reading in a similar position accompanied by two small, pug-like dogs also adorned with bells, positioned on either side of her feet. Practical vs. symbolic interpretations of these dogs all being located at the feet on the sarcophagi would merit a separate piece of research in art history.

Osteological parallels

Thanks to the fortunate survival of the chapel of São Cosme and São Damião, the artwork discussed in this paper has not yet been deposited in the archaeological record. Its origins and overall context therefore do not have to be discussed beyond what was mentioned in relation to the general history of the cathedral. It is worth comparing, however, the animal images outlined with some known archaeozoological data.

Although the chicken head may not be the most central zoological symbol in the chapel of São Cosme and São Damião, it shows an animal part whose chances of survival are negligible in the archaeozoological record (Gál *et al.* 2010, p. 1070, fig. 7). Moreover, this piece of art directly points to the reason as well: a bird’s head, ill fit for human consumption unless the brain is served as a delicacy, was likely to have been tossed and scavenged before it could have been preserved in the archaeological deposit. Regardless of its possible symbolism, this modest piece of

iconographic evidence offers a glimpse at medieval dog keeping no archaeozoologists could ever have.

Aside from the chicken head, there is another remarkable link between iconography and *de facto* osteological evidence. Since no bone remains of similar dogs from Iberia were found in the literature, parallels were sought from a geographically distant place. Skulls from one distinctively miniature dog and two small dogs were recovered from a 14th-early-15th century well at Teleki Palace in Buda, medieval capital of Hungary (Figure 17.4; Daróczi-Szabó 2004). Water-logged layers of this feature preserved, among other things, a large piece of silk wall tapestry with Anjou heraldic symbols. In strictly *taphonomic* terms, therefore, this well may be compared to the chapel of São Cosme and São Damião: located in a municipal location, it represents a point where high status artefacts and special animal remains had been accumulated together in the archaeological deposit and were preserved under most fortunate circumstances.



Figure 17.4: Medieval miniature and small dog calvaria from Well 8, Buda–Teleki Palace, Hungary (Courtesy of László Daróczi-Szabó).

Far away from the chapel in Lisbon, on the opposite edge of Europe, these skulls originate from a high-status urban deposit, coincidentally also dated to the 14th-early-15th century. Their presence at the Buda site therefore is, in many ways, analogous to the incorporation of dog imagery into the iconographic record at the chapel of São Cosme and São Damião. These bones originate from favourite pets that would have been unlikely to survive

without human protection among the stray dogs that often roamed the streets of medieval towns.

Although it would be erroneous to talk about breeds in this case, the sizes of the three skulls shown in [Figure 17.4](#) are worth comparing to those of other medieval finds from Hungary, against the backdrop of modern breeds used here as a point of reference ([Figure 17.5](#)). In general, the graph shows that in relation to the main trend calculated on the basis of an admixture of modern breeds, contemporary wolf skulls are somewhat narrower than the skulls of near identical looking Alsatians that fit the main trend of domestic dogs. Skulls of the modern Boxer breed are relatively wide (falling far above the general trend line), and these latter proportions are also characteristic of the medieval miniature dog recovered in Buda, which exceeds only two modern Rattler skulls in size. Such dogs display neothenic head shapes, reminiscent of that of young children (Bartosiewicz 2006). The other two small dog *calvaria* look less extreme, but still fall at the low end of the size range. When the rest of the medieval dogs are inspected, the absence of very large specimens is remarkable: none of the skulls available from Hungary reached the size typical for wolves or Alsatians or any other large modern breeds. The largest must have been comparable to present-day Pointers in size. In light of these data, the size of the marble hound faithfully guarding Lopo Fernandes Pacheco seems appropriate in proportion to its master.

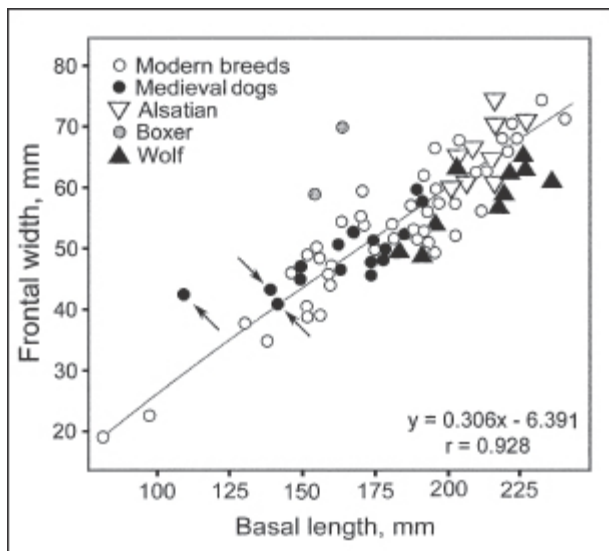


Figure 17.5: The relation between basal length and frontal width of dog calvaria. The trend line marks all modern breeds pooled. Arrows indicate the three medieval specimens in Figure 17.4 (redrawn after Daróczy-Szabó 2006).

Dwarf dogs are not unknown in mortuary contexts. Osteological evidence reveals that these distinctly urban forms were not an exclusively medieval feature. They were already bred and kept under the protection of humans in Roman provincial cities in Europe where a broad range of forms occurred (Bökönyi 1984; Peters 1997). An interesting archaeological example may be seen in the remains of a small, *brachycephalic* dog found in a 3rd-century AD burial in the cemetery of Yasmina (Carthage, Tunisia) in the company of an approximately 10–15 year-old person (MacKinnon and Belanger 2002, p. 39). A complete skeleton of a small dog was also found at York Road, Leicester, on the base of a full sized grave dating from the 4th century AD that appeared to have been placed deliberately in the large extramural Roman inhumation cemetery, although only a few human skull fragments were recovered from the same feature (Baxter 2006, p. 12). Dwarf dogs seem to have disappeared from the archaeological record in Europe with the collapse of the Roman Empire. The remains of similar forms resurfaced only centuries later as urban and courtly life consolidated in Europe and people could afford the luxury of caring for such creatures.

Healing, religion and gender

The systematic appearance of several dogs in the iconography of a Christian sacral space of the highest status may have diverse, possibly complementary cultural interpretations. None of these can be proven directly, but given the cultural context (both functional and historical) each are worth considering.

The first is the possible coincidence between the naming of the chapel in Sé de Lisboa after the 3rd century AD Christian martyrs São Cosme and São Damião, the patron saints of physicians and surgeons, and the fact that dogs have also had an aspect of healing from Roman times on as well. Quoting Cutillo (1986, p. 15), MacKinnon and Belanger (2002, p. 43) refer to the contemporaneous Greek author Callimachus (264 BC) who wrote about the healing powers of Maltese dogs laid upon the stomach of the patient to alleviate pain. Dogs serving as therapeutic media have also been discussed in relation to their skeletons found in human graves in Roman Period Italy (De Grossi Mazzorin 2001, p. 86). In a somewhat actualistic interpretation of toy dogs in the Classical World, Phillips (2001, p. 93) even refers to contemporary medical evidence that those keeping small pets are less liable to heart disease. While it remains a question whether the toy dogs found in the Yasmina and Leicester burials may be interpreted as “healers”, due to their small size and the extent of their pathological lesions, they needed good care to survive to an old age. This privileged position also seems unquestionable in the case of the marble dogs under discussion here. It remains a question, however, whether they could be seen as a Christian response to the therapeutic role assigned to dogs in Classical Antiquity.

There may also be a subtle, secondary religious message in the phenomenon of depicting dogs on these Christian sarcophagi. Written sources (often selectively concentrating on military events thereby leading to their overrepresentation in the historical record) reveal that Lopo Fernandes Pacheco fought alongside Afonso IV in the 1340 Battle of Salado near Gibraltar, when the last invasion of the Moors was beaten back (Monteiro 2003, p. 248). This fact raises the possibility that the dog was also a compounded symbol asserting his master’s Christian identity, contrasting it with the *kynophobia* of his Muslim enemies (Jacqueline Meier, personal communication). At this point, however, this interesting possibility cannot be verified as nowhere in the Qur’an are dogs prohibited as

haram. According to *Surah* 18:18, dwellers of the Cave, good believers, lived with dogs (“their dog stretching forth his two fore-legs on the threshold”). The Qur’an lacks in specific rulings in many practical matters. Muslims thus look at the oral tradition relating to Muhammad, *hadith*, to decide what to avoid. Dogs figure negatively only in *hadiths*, a number of which also quote Muhammad encouraging people to appreciate cats, animals not even mentioned in the Qur’an.

Gender stereotyping is also present in the iconographic evidence discussed here. Lopo Fernandes Pacheco, the noble warrior, is shown with a dog that is large by medieval standards (as suggested by parallel craniological evidence from Hungary), while the two ladies buried in the same chapel are accompanied by toy dogs, whose roles as pets are further emphasised by the bells they wear around their necks. Although high status dog burials in Scandinavia have yielded a variety of collars for larger dogs (Gräslund 2004, p. 168), to my knowledge such dog bells are yet to be found *in situ* in archaeological excavations. They do occur, however, on the pet dogs shown in the high-status setting depicted by Jan Steen entitled *De Hoenderhof* (The Poultry Yard) from 1660 (Gál *et al.* 2010, p. 1071, fig. 10). Topsell (1607) described the Mimick, a type of dog which is thought by some “to be conceived by an Ape; for in wit and disposition it resembleth an Ape”. By that time, the aforementioned Maltese toy dogs have also been identified with femininity in Early Modern England (Figure 17.6).

A stepping stone to modern perception?

A recent study of coexistence between dogs and humans in Czech households (Baranyiová *et al.* 2009) showed that the body size of 246 studied dogs affected significantly only one fourth of the 84 behavioural traits rated by their owners. The 32 toy dogs (weight < 5 kg) were more often described as submissive and masturbating more frequently than larger breeds. Only one eighth received any training and thus obeyed commands only sometimes or rarely. They were more common in single-member households and were mostly acquired at an age older than six months. They were allowed to sleep in beds more often than others (Baranyiová *et al.* 2009, p. 111). Naturally, these “behavioural” features are characteristic of human behaviour, showing the owner’s concerns,

reflecting urban attitudes toward dogs. They may influence, however, our stereotyping of dogs in medieval iconography.



Figure 17.6: Picture of a toy dog from the early 17th century.

Dog statues in this chapel serve as attributes of their respective masters. The fact that they have been incorporated into a sacred space is indicative of their positive perception, something not always evident in oral tradition that tends to reflect ambiguity towards dogs (Bartosiewicz, 2004). By the Modern Age, the medieval position of high status dogs illustrated on the three Gothic sarcophagi in Sé de Lisboa developed into a concept of pets (Thomas 2005, p. 96). The legendary Greyfriars Bobby of Edinburgh, Scotland, reputedly spent 14 years guarding the grave of his master, until he died himself in 1872. Although by 1888 the Hyde Park Dog Cemetery was established in London (Morey 2006, p. 169), it should be considered a rare privilege, that this popular pet was granted a resting place within the consecrated ground of a human cemetery in Edinburgh. In a modern Victorian cultural context Bobby became a symbol of not only loyalty, but also of the special bond between humans and dogs (Wilson and Murphy 2008, p. 85). It remains a question, how much this sentimental perception

can be applied retrospectively onto generations of dogs in European culture history.

Conclusions

Both inspirations for and interpretations of ritual behaviour are manifold. What is suggested in this paper is that the basic perceptions of animals cross-cut material boundaries, and are therefore represented differentially due to the diverse forms of taphonomic loss. As a result of the selective preservation of osteological, iconographic and documentary sources it is difficult to distinguish between true continuities and general features. For example the tradition of human/dog burials survived longest in Northern Europe until the late first millennium AD, while it is far less known in the Mediterranean region. Meanwhile the use of dogs in effigies is a distinct aristocratic feature whose origins may lie in the heraldic language of specific animals, which appears only from the mid-12th century onwards (Pastoureau 1993).

Symbols do vary strongly both in time and space and of all animals, omnipresent dogs are the least likely to be an exception. Whether dog skeletons were incorporated into burials in their physical reality or used only in funerary imagery, the leitmotif of displaying “man’s best friend” is usually difficult to question. This simplistic modernday interpretation, however, may be placed within a more sophisticated cultural context, when the medium-driven taphonomy of general information and the diverse symbolic roles played by dogs are considered. Surviving dog remains reconfirm that the iconography of dogs observed in the chapel of São Cosme and São Damião is not simply a mental construct of animals as attributes, but that there are a host of reliable naturalistic and potentially symbolic elements incorporated in their imagery.

In addition to their symbolic roles, the dog statues in the chapel of São Cosme and São Damião reveal ordered information that is lost or appears only in a disjunctional form in the ordinary taphonomic record of excavated animal bones. This otherwise intangible information includes technical details such as feeding chicken heads to dogs, the shape of the dogs’ ears and most importantly their explicit relation to their masters. These were preserved due to the sacral physical space as well as the mental

“space” that accepted them as meaningful elements in complex religious iconography.

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